The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

VOL. 23. NO. 51 TULSA, OKLAHOMA, MAY 14, 1925

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Crude Oil Situation Continues Firm

Highest daily average estimated production this year, week ended May 9, 2,239,651 bbls. Lowest January 3, 1,911,730 bbls.

Increasing Consumption More Important than Gains in Production. Light Oil Output Greater

By Andrew M. Rowley

Highest daily average estimated light oil production this year, week ended January 17, 1,525,220 bbls. Lowest, May 2, 1,409,898 bbls.

Despite another very substantial increase in the total production of crude petroleum and a gain of 8,822 barrels daily in the output of light gravity oil in all fields of the United States during the past week, the crude petroleum situation remained firm while there were several developments which tended to strengthen the feeling of optimism on the part of operators. Chief among these is the fact consumption of petroleum products is showing a very decided increase. Consumption is the backbone of the entire situation and as long as it continues to gain, there need be but little fear of the effect of the big increase in production, especially as this increase has been in the form of heavy gravity crude which will have little or no effect upon the gasoline situation.

The increase in consumption is general throughout the country and showed a gain of 33 per cent in March over March of last year, while the total consumption of gasoline for the first three months of this year was 28½ per cent greater than for the first three months of 1924. Of particular importance to the general situation is the fact consumption in California began to show a decided increase last week. California has been the one weak link in the crude oil situation as production in that State has been greater than its markets could absorb and the surplus threatened to affect the eastern and Mid-Continent sections of the country. That farseeing operators are preparing for the time when California will be able only to care for its own markets without sending any crude or refined oils to the East is shown by the fact that some of the largest companies on the Pacific Coast are arranging to install cracking processes. This can be construed in only one way—a much stronger gasoline market is expected.

After breaking all previous records for crude oil production on last Saturday, the Smackover Field began to show slight declines but it cannot be said the output of 361,200 barrels for last Saturday will mark the peak output of the field. There are 364 wells drilling to the deep sand in that field and last Saturday's record could be broken easily if a number of these wells are completed soon and other producers allowed to flow freely.

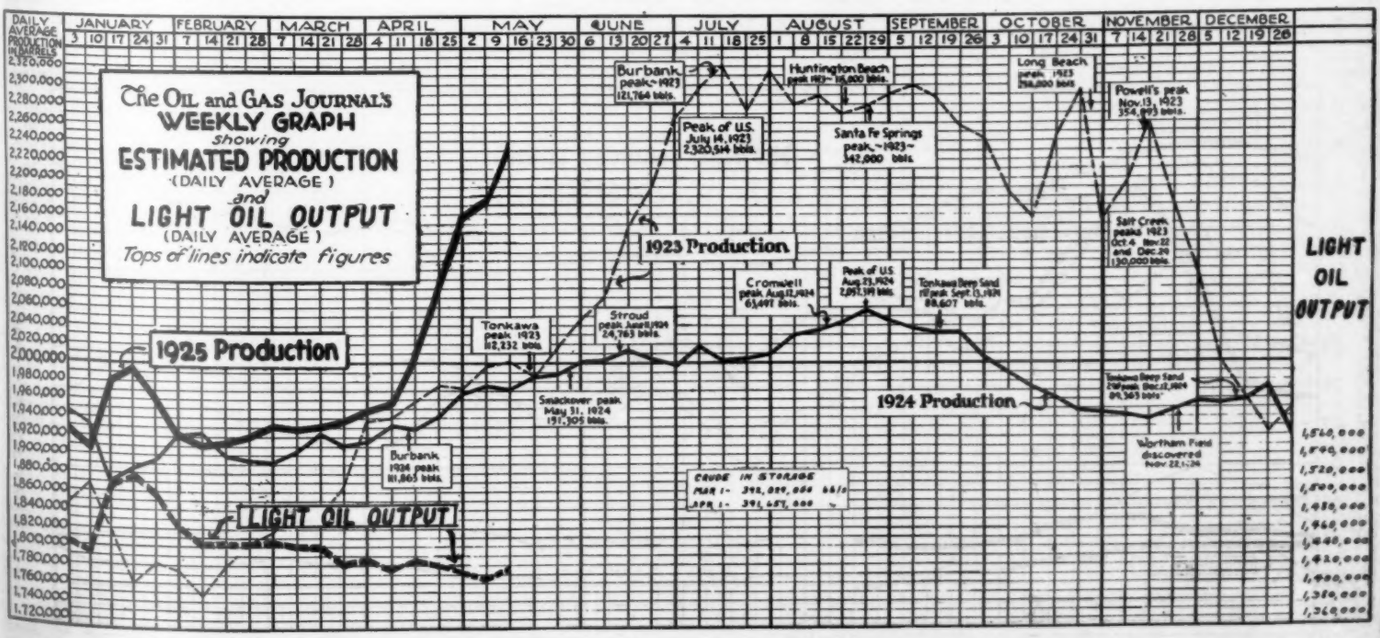
North Texas and Kansas showed the greatest increases in light oil production during the past week, the Rainbow Bend Pool in Kansas being responsible for the increase in that State while the active development in a number of counties in North Texas is bearing fruit.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity crude oil in the United States for the week ended May 9, and a comparison with the previous week follows:

	May 9		May 2	
Oklahoma—	**Light**	**Heavy**	**Light**	**Heavy**
Tonkawa	60,230		61,745	
Burbank	56,095		58,220	
Other Osage Fields	31,610		32,455	
Cushing and Shamrock	22,185		22,145	
Bristow and Eastern Bristow	34,865		34,115	
Cromwell	41,670		41,910	
Papoose	24,490		24,365	
Northern Miscellaneous	110,860		109,245	
Southern Fields	62,565		63,170	
Total Oklahoma	444,570		447,370	
North Louisiana	52,320		52,080	
Arkansas—				
El Dorado and Calion	9,250		9,200	
Smackover Light	30,345		30,000	
Smackover Heavy		358,785		312,820
Stephens and Nevada	3,505		3,500	
Total Arkansas	43,100	358,785	42,700	312,820
North Central Texas	166,480		157,795	
Powell	50,700		52,215	
Mexia, Currie, Richland, etc.	27,560		27,810	
Wortham	52,600		54,200	
Kansas	95,695		89,485	
Total Mid-Continent Area	933,025	358,785	923,655	312,820
Gulf Coast		105,736		101,068
Southwest Texas		46,410		43,665
Eastern	105,250		105,225	
Rocky Mountain Area	92,445		90,518	
California—				
Santa Fe Springs	49,000		48,500	
Long Beach	114,000		114,000	
Huntington Beach	42,000		42,000	
Torrance		37,000		37,000
Dominguez	43,000		45,000	
Rosecrans	19,000		19,000	
Remainder of State	21,000	273,000	22,000	272,000
Total California	288,000	310,000	290,500	309,000
Total United States	1,418,720	820,931	1,409,898	766,553
Grand Total		2,239,651		2,176,451

→ Total Increase, 63,200 Bbls.; Light Oil Increase, 8,822 Bbls. ←



Exporters Again Aid Gasoline Market

Additional Buying by Standard of New Jersey Brings Higher Prices. Government Reports Show Improved Statistical Position

By Neil Williams

Additional refining and marketing news will be found in section starting on page 150

Although the wave of buying of the early and middle part of last week has subsided to a more settled tone, the Oklahoma (Group 3) refined market is still influenced by those purchases, and Tuesday seemed on a substantial footing. The sudden spurt in buying of U. S. Motor (58-60, 437) gasoline, climaxed by the second large purchase by the Standard Oil Co. of New Jersey last Wednesday, brought an advancing market the latter part of last week.

While several factors may have contributed to the present strength of the gasoline market, nearly all market observers are agreed that the chief contributor has been the purchases of U. S. Motor gasoline for export, mainly by the Standard of New Jersey. Two times in the last month the New Jersey company has come into the Group 3 market in a time of need with large orders for export demand. Both times, slipping markets reacted to the buying with substantial advances.

The value of the New Jersey company to Oklahoma gasoline markets the last month may be made clear by estimates of those in touch with the situation that the one company alone has taken out of the Group more than 3,500 cars, or approximately 29,000,000 gallons of gasoline, since April 1. This estimated amount does not include the several hundred cars of natural gasoline which the Jersey also buys each month. It can be seen readily that the removal of 29,000,000 gallons of gasoline in a little over a month from the Group would have a material strengthening effect.

The last large purchase of the Standard of New Jersey approximated 600 cars or around 5,000,000 gallons. Starting buying at 10½ cents, the company later was forced to buy at 10¾ cents. However, when all 10¾ gasoline seemed to fade from sight and refiners held off for 11 and 11¼ cents, the company suddenly ceased buying. It was reported the company would have continued buying if it could have obtained gasoline at 10¾ cents.

While most refiners and other sellers have confidence in the present price level, and, if anything, feel that immediate increases have not ceased, jobbers and other buyers are looking with suspicion on the market and have not changed their policy of buying only for immediate needs. It seems to be felt generally that refiners are in much better position now in regard to stocks than they have been in a long time but on the other hand it is known that the new price level has checked the buying fever which seemed to have been started in full force early last week.

Course of the Market

This latter factor is admitted to have a strong bearing on the immediate market trend. What course the market may take will be a matter of who can hold out the longest, the sellers or the buyers. Jobbers have been buying very cautiously for more than a month, and last week, when orders began to pour into refiners, it was thought the jobbing storage at last was empty and would have to be replenished. With the buying stopped, sellers again have gone to speculating on how much more gasoline the jobbers have stored and how much longer they can hold out.

Market observers believe the next two weeks will tell the story of what the coming summer has in store for the market. In this time the start of the biggest buying season of the year will have been reached and making of summer orders for gasoline will have been started. It is agreed that the weather the next few weeks, more than any other time of the year, will have a strong bearing on market conditions.

The Bureau of Mines report for March which will be found in full elsewhere in this issue supports the view of those who are taking a more optimistic view of the gasoline situation. For the whole country the report shows a 33 per cent increase in domestic consumption over the same month of last year, a period, however, in 1924, which was marked with unfavorable weather conditions in contrast to the favorable situation this year. The report shows that for the first three months of this year the domestic gasoline demand was 28.5 per cent greater than the same period last year with exports 17.5 per cent greater. As a result of this large increase in demand gasoline stocks on April 1 were only 1.5 per cent greater than the same date of 1924.

Considered as a whole the Government report unquestionably does show that the refining industry entered the second quarter of the year in a better statistical position in regard to gasoline than it did on the same dates of the unsatisfactory years of 1923 and 1924. It is equally as certain that April added to this improved statistical position due to the heavy consumption reported from all parts of the country.

Mid-Continent Situation

The accompanying table summarizes the situation which obtained in the Mid-Continent Field during March with stocks of three principal products as of April 1. This table shows in regard to gasoline that the Mid-Continent situation is even better than the country considered as a whole. While gasoline stocks in the Mid-Continent increased 31,299,824 gallons during March, stocks on April 1 were 32,966,509 gallons less than on the same date last year. It is interesting to note in this connection that gasoline stocks east of the West Coast were approximately 43,000,000 gallons less than on April 1, 1924.

In line with the views of those market observers just explained it is well to note that this favorable market condition is not due to refiners curtailing their operations but because of a large increase in demand. As shown in the table Mid-Continent refiners in March ran approximately 78,000 bbls. more crude oil to stills than in March of last year, a condition

(Continued on Page 156)

REFINED MARKET BAROMETER

Further advances in gasoline prices in several areas with a generally better tone in all sections was the outstanding development in refined markets throughout the United States during the past week. The principal improvement in motor fuel prices was in the Mid-Continent and areas immediately surrounding, a situation brought about largely through export buying. The unsettled conditions which exist practically everywhere in the wholesale and retail markets on gasoline were reflected in scattered tank wagon and service station price reductions. The domestic demand for kerosene continues strong and prices when changed were advanced. Fuel oils are stronger in the Mid-Continent, largely due to the advance in Smackover crude prices with no general change in other sections. Natural gasolines are generally strong with important advances east of the Rocky Mountains. There were no important changes in lubricants. Wax continues strong.

Mid-Continent—The entire refined market structure shows strength with substantial advances in gasoline prices. New buying was less the first of week as result of higher prices and scarcity of products. Exporters clean up higher gravities. Kerosene movement increases with higher prices asked. Decline of fuel oil checked following advance in posted price of Smackover crude. Gas oil takes turn for better to satisfy demand of refiners having cracking equipment. Lubricant and wax movement good.

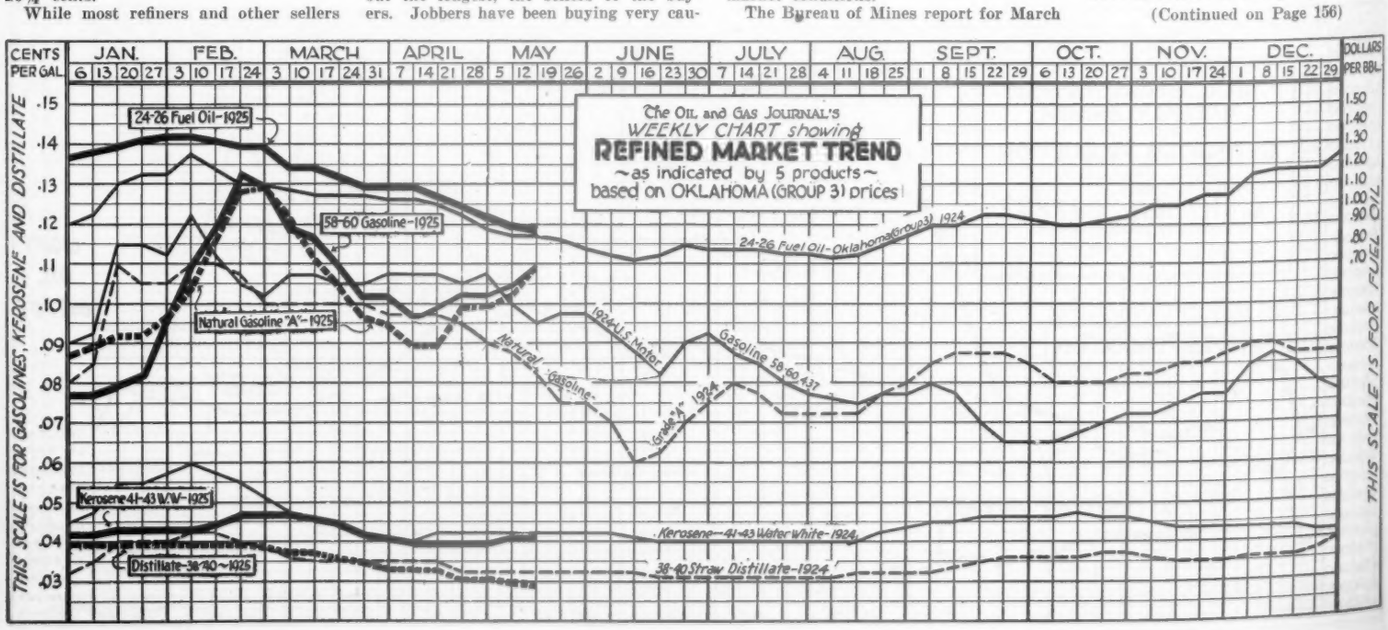
Atlantic Seaboard—Competition among larger companies causes local tank wagon reductions. Refining operations speeded up. Gasoline prices firm. Export demand stimulates kerosene buying. Gas oil firm. Fuel oil continues to soften. Diesel oil strong but bunker tends to ease off. Lubricating oils unchanged.

Gulf Coast—Refined market weak but tendency to strengthen is seen. Fuel oil soft.

Pennsylvania—Gasoline and kerosene prices hold firm. Shipments from refineries slacken. Fuel oil still weak although sales pick up. Neutrals unchanged. Filtered goods still soft. Wax market continues strong.

California—Better tone felt in refined market. Prices steady.

Chicago—Gasoline demand light but market is firm. Fuel oil stronger and demand more active. Minor changes in other products.


CENTS PER GAL
JAN. FEB. MARCH APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
DOLLARS PER BBL.
THIS SCALE IS FOR GASOLINES, KEROSENE AND DISTILLATE
THIS SCALE IS FOR FUEL OIL
The Oil and Gas Journal's
WEEKLY CHART showing
REFINED MARKET TREND
~as indicated by 5 products~
based on OKLAHOMA (GROUP 3) prices
24-26 Fuel Oil-1925
58-60 Gasoline-1925
Natural Gasoline "A"-1925
Kerosene 41-43 W.W.-1925
Distillate-38-40-1925
24-26 Fuel Oil-Oklahoma (Group 3) 1924
1924 U.S. Motor
Gasoline 58-60 437
Natural Gasoline Grade "A" 1924
Kerosene-41-43 Water White-1924
38-40 Straw Distillate-1924

Texas Fault Zones Still Mystifying

Large Sums Expended in Endeavor to Solve East Central Texas Structures. Whitehead's Theory Explained

By C. D. Lockwood

DALLAS, Tex., May 11.—One of the most interesting, important and costly wildcatting campaigns that the State of Texas and possibly the entire industry has ever known, leaving in its wake a string of more than 80 dry holes stretching northward from the Powell Field in Navarro County, through Henderson, Kaufman, Van Zandt, Hunt, Hopkins and Rains counties, and culminating in such expensive failures as those at Bazette, Prairieville and Maybank, is now almost a matter of history. Several large producing companies are still core-drilling in this great area, a few wells remain on the active drilling list and a couple of new ones are being started, and as long as this condition obtains, the industry as a whole, outside of the East Central Texas district itself, will consider the fault zone a serious menace. Locally, it has been regarded less dangerous for some time.

Having reached a breathing spell, however, when the mere mention of the "Balcones Fault" is no longer sufficient to cast gloom over the average Mid-Continent oil man, the question uppermost in the minds of most students of the situation is, "What geological theory, if any, has been evolved as a result of all this drilling to explain the almost invariable aridity of all tests north of the Trinity River?" To the lay mind, the fact that with one or two exceptions which are disputed in some quarters, none of the 60 or more tests north of the river had an oil showing worth mentioning, is of more than usual significance. It would seem that if any oil were there, the element of chance which is ever present in the wildcatting game would enable some lucky company with the aid of competent geologists, core drills and good fortune to hit the coveted spot To date, however, with ample choice of locations from which to select, Dame Fortune has shown no favoritism whatever.

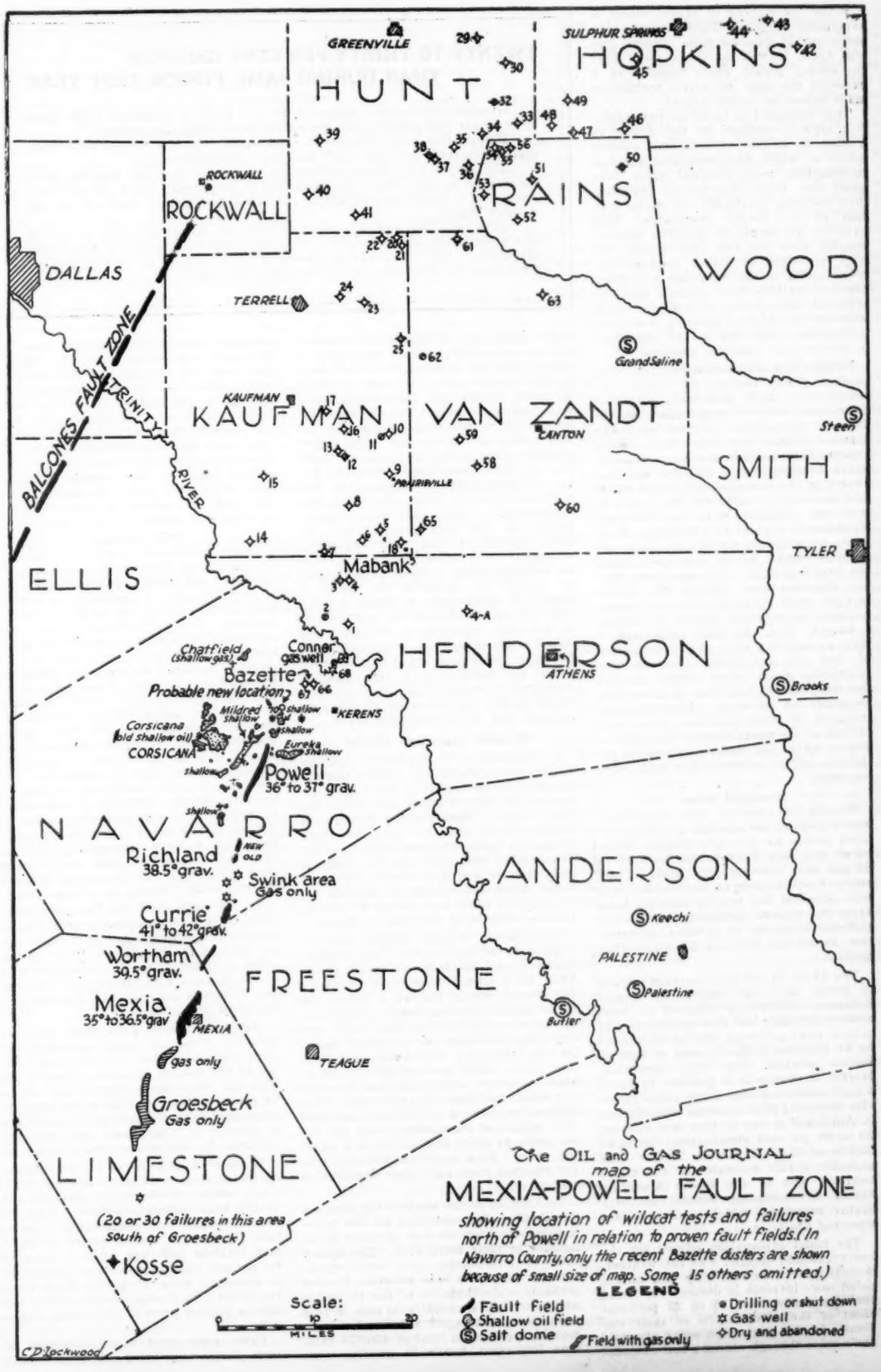
One Recent Example

The Marland Oil Co.'s recent failure to find oil in the Woodbine sand in its Bauknight well, southeastern Hunt County, although located on a core drilled fault with a displacement of 600 feet is but one of several mystifying disappointments on well-defined structures and faults. This well was drilling ahead in an effort to test the Trinity sand and was down to 3,745 feet when the rig was pulled in May 4, dropping a lot of pipe in the hole. It will be rebuilt, however, and an effort made to complete the test.

With a desire to ascertain whether or not a geological theory had been formulated as a result of this extensive drilling campaign, the writer interviewed a number of leading East Central Texas geologists on the subject including R. B. Whitehead, chief geologist of the Atlantic Oil Producing Co.; Dr. Frederic H. Lahee, chief geologist of the Sun Oil Co.; C. E. Hyde, director in charge of geology of the Marland Oil Co. of Texas; Leon J. Pepperburg, consulting geologist of Dallas; A. M. Hagan, chief geologist of the Transcontinental Oil Co., and other competent authorities.

The outstanding impression gained as a result of this effort was that the fault zone is more of a mystery than ever. Geologists as a whole are perhaps more at sea than at any time since the boom days at Mexia because there are inconsistencies in the faulted region which almost defy explanation and which render any theory thus far advanced unsatisfactory or incomplete to some thinkers. Almost in the geometrical and geographical center of the producing strip along the fault, halfway between Mexia and Powell, the Sun Oil Co. has found to

(Continued on Page 160)



Largest Increase in Motor Fuel Demand

Distributors in all Parts of the Country Pleased With April Consumption. Price Cutting Prevalent in Retail Markets

By C. O. Willson

TWENTY TO THIRTY PER CENT GREATER THAN DURING SAME PERIOD LAST YEAR

Gasoline consumption since the first of April is estimated to be from 20 to 30 per cent greater than during the same period last year.

Despite this large increase in consumption there is considerable price cutting involving both the small and large distributors.

The surprisingly large increase in actual consumption together with the decline in light crude oil production is responsible for a change from pessimism to hopefulness regarding the motor fuel market trend during the summer months.

These opinions and data were obtained by the writer from the heads of representative oil companies in all parts of the country east of the Rocky Mountains. Other observations regarding both domestic and export market conditions are explained in the accompanying article.

When the Bureau of Mines report is announced early in June covering the shipments of gasoline from refiners during April, it will no doubt show that the 30-day period which ended May 1 exceeded the most optimistic predictions made before the month opened.

This statement is based on representative reports obtained by the writer in a visit to middle western and eastern points at which data regarding gasoline consumption were obtained from both small and large distributing organizations covering practically all of the area east of the Rocky Mountains. This situation in regard to gasoline demand coupled with the fact that despite the large increases in actual consumption, price-cutting in the wholesale and retail gasoline markets was general, was the principal development of a survey made with the intention of securing first hand information regarding actual conditions in export and domestic markets

Despite the disappointment regarding gasoline prices due to the heavy consumption of April, practically all those interviewed believed improvement in the domestic market was assured before the summer demand was under way. Many expressed the belief that the exceptionally heavy consumption of gasoline was fast absorbing the excess stocks in the hands of refiners responsible for the break in tank car markets early in February. Evidence to support this optimism is already apparent in the stronger tank car gasoline market which developed during the past few days. The optimistic market observers also stressed the decline in light crude oil production as a factor, pointing to improved market conditions.

Largely from the same authorities it was ascertained that the consumption of fuel oil, lubricants, kerosene and practically every other refined product for the past 30 days has at least been as heavy as expected. However, distributors of these products also complained of the unsatisfactory market conditions which has made it impossible for them to sell at prices in line with refining costs.

Increased Sales

Reports on gasoline sales from tank wagon and service stations at such scattered points as Chicago, Toledo, Pittsburgh and New York varied from 18 to 35 per cent increase over April of last year. Several concerns from which data were obtained had reports covering large areas but without exception they showed uniform increases in gasoline consumption in all the sections in which they operate.

The 18 to 35 per cent increase applies to actual sales per station. In several instances distributors reported an even greater increase but this applied to the gain in total gallonage effected oftentimes by an increase in the number of bulk or service stations they were operating. Market observers in a position to know actual conditions over large areas generally estimated that domestic consumption in April and so far in May was running 20 to 30 per cent greater than the same month of last year with 25 per cent probably a fair estimate for the entire territory east of the Rocky Mountain States not including several southern States regarding which accurate data were not available.

The usual explanation offered for the heavy gasoline demand was the weather. Several executives said they had anticipated some increase in demand but found their estimates were 15 to 25 per cent short of the requirements of their stations. In this connection many also said their sales through stations had exceeded their expectations every month this year. As the sales manager of one company summarized the situation "our tank wagon and station sales have been so heavy all year, we thought that surely April would show a reversal but our sales for the month were almost as great as the best month of last summer." This heavy gasoline consumption previous to April has, of course, been known from the Bureau of Mines reports which show that gasoline shipments from refiners the first three months of this year were approximately 26 per cent greater than the first quarter of last year. However, shipments from refiners are not always an accurate gauge of sales to consumers on which the estimate for April is based. It should also be borne in mind that weather conditions the first quarter of last year, especially in February and March, were exceptionally bad with more favorable conditions existing in April which was reflected in a large gasoline consumption at that time. It is this fact which makes the estimated 25 per cent increase this April most significant.

Weather Important Factor

In explanation of the heavy gasoline consumption independent jobbers and the marketing departments of the large companies, all gave weather conditions the major credit. Temperatures, even in the extreme north sections, have been high enough to make pleasure trips possible. The rainfall was also relatively light in most sections and due to this fact many roads which are usually impassable for automobiles until late spring have been traveled ever since the first of March.

Distributors in rural sections especially stressed the importance of the weather. Farmers and residents of small towns have been using their cars regularly for several weeks and as a result the major marketing organizations state that the relationship between their rural and city sales have been near a summer basis. In one instance a distributor said their city sales, which are usually relatively high in winter when compared to country sales, had been disappointing. The explanation offered in this case was that city owners of automobiles were not using them as much due to the city parking rules. This condition however was not reported from any other distributing center.

In addition to the weather the gasoline distributors also accounted for the gasoline consumption as due to more automobiles in their territories. The spring sales of automobiles have come exceptionally early and this situation is also probably a development of the favorable weather. It is interesting to note in this connection that April witnessed a new monthly production total of 420,373 cars. One important factor in gasoline consumption mentioned by several was the increased numbers of bus lines. Many new lines are already in operation and many others are to start operating as soon as settled weather arrives and road improvements are completed. It was not possible to secure any accurate estimate as to the total volume of this business but undoubtedly it has been an important factor in the increased consumption so far this year. Competition for this class of business is especially keen in Ohio and points farther east.

Price Cutting

Every distributor interviewed reported the surprising demand for gasoline just explained but there was practically the same unanimity of complaint in regard to conditions in the wholesale and retail markets. Every distributor of any size reported that there was considerable price cutting at one or more points in the territory in which his company marketed its gasoline. In Ohio at one point gasoline was retailing at 17 cents including a 2-cent tax which recently became effective. This price is 5½ cents under the retail price which the Standard Oil Co. of Ohio is attempting to maintain throughout the State. Reflecting the generally unsettled conditions existing in the distributing markets it is interesting to note that the principal price cutter at this particular point is buying his gasoline from a large refining organization at a tank car price which at the same time is trying to sell its gasoline through its own service station at a higher price.

In the same State the Roxana Petroleum Corp. is maintaining a tank wagon and service station schedule 2 cents under that of the Standard. Many of the other distributors are following the lead of the Roxana while others are splitting the difference between the Roxana and Standard schedules.

Many other local price wars were reported. Gasoline was retailing in Pennsylvania as low as 18 cents. On one of the main boulevards of New York City the retail price varied from 18 to 24 cents, a situation which the gasoline consumers cannot understand as reflected in letters to newspapers and editorial comment by the newspapers themselves.

However a majority of the complaints by distributors were not concerned with price cutting in the retail markets but in the tank wagon schedules. Distributors generally were endeavoring to maintain the service station prices at their own stations but they made it possible for garages and other outside distributors to undersell them by giving more than the usual 2 or 3 cents margin under the service station price in their tank wagon sales.

Cases were cited where operators of curb pumps were being sold from 4 to 6 cents under the accepted service station price. The situation is apparently especially bad in New York and the New England States. It accounts for the 2 cent reduction made by the Standard of New York on May 7 and the 2-cent reduction announced by The Texas Co. at several points in New England and New York May 5.

Cause of Situation

This situation in regard to the tank wagon markets is obviously due to the spread which exists at many points between the so-called tank car price and the wholesale price. It is not however as wide as it has been for brief periods in times past when no special trouble was encountered. Although independent distributors buying cheap gasoline at low prices from the Mid-Continent areas were often blamed for the price cutting, the independent jobbers also had considerable evidence to support their contention that they had been followers rather than leaders in lowering prices. They usually blamed one or more of the major distributors for the conditions existing in their territories.

The truth is that it would be an exceedingly difficult job to determine just who is the originator of these numerous price wars which if not discontinued threaten the whole and retail price structure of the entire country. In many instances according to one veteran distributor it is the newcomer.

"Many companies both large and small have the idea that they cannot get business in a new territory without cutting the price," this distributor explained. "They open a bulk station or a string of service stations and the first thing they do is reduce the established price or make some other concession to their customers which forces the rest of us to change our prices."

This battle for gallonage through the enlargement of marketing territories by many distributors unquestionably does account for many of the evils in the distributing markets. Numerous companies are expanding into new territories and use the shortest cut to attract the attention of prospective customers by price cutting, with no regard to immediate profits.

Export Gasoline Market

In many respects export market conditions at the present time resemble those existing in the domestic market. Gasoline consumption in foreign countries generally has been excellent and the demand from American sources of supply up to a few weeks ago has been equally as encouraging. This fact is also clearly shown in the Bureau of Mines report for the first three months of the year.

However, new business in April and so far in May has been conspicuous by its absence according to practically all those in touch with export conditions. Shipments have been fair on previous commitments but inquiries for May or later delivery have been few.

As in the case of the domestic jobber lower prices from refiners force the average foreign buyer out of the market rather than leading to greater purchases. Due to the developments of the previous two years when the gasoline market continued downward from early spring to late fall foreign buyers this year are especially cautious and are awaiting some definite developments before they again enter the markets for new supplies.

"I am confident that there would have been more business for all of us and certainly more profits if we had maintained our export prices at the levels established when crude prices were advanced in January and February," was the ex-

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361,200 Bbls. a Day From Deep Sand

Smackover Field Produced 448,000 bbls. on Saturday. Big Drop Sunday. Salt Water Making Incursions

By Special Correspondent

EL DORADO, Ark., May 11.—Smackover deep sand production reached 361,200 bbls. Saturday and the field reached a total production of around 448,000 bbls. of light and heavy crude, according to estimates made today. This breaks all records for the production of a single field anywhere in the world. It beats the peak of Santa Fe Springs, Cal., in August, 1923, by 95,000 bbls. It beats the Cushing-Shamrock, Okla., production peak by 137,000 bbls. It is 83,000 bbls. higher than the top production of the Powell Field in Texas, but it is a heavy oil averaging 22 gravity, while all the other fields mentioned produced oil above 30 gravity and as high as 40 gravity.

Saturday's tremendous production came from 135 producing wells, but of these 12 were making practically all salt water. Twenty-seven additional completions that had been oil wells were "dead" on that day.

Production from the deep sand fell Sunday to 338,975 bbls. from 137 wells not including 32 that were "dead."

Saturday's reports of completions included a 10,000-bbl. well and another that increased from 4,000 bbls. to 12,000 bbls., the latter being the Roxana Petroleum Corp.'s No. 2 Hardy-Murphy, SW NE NE, Section 9-16-15. The completions Wednesday, Thursday, Friday and today showed a total initial production of 88,750 bbls., which includes the increases in production of some wells already reported.

Stocks and Pipe Line Runs

The total amount of heavy crude oil in storage in the field on May 1 was 17,012,600 bbls. of good pipe line oil out of 20,259,101 bbls. of fluid including water and sediment. The stocks of crude increased over 1,000,000 bbls. in the course of the month.

April runs of heavy oil were 4,143,583 bbls., or a daily average of 139,119 bbls. a day. The shipments had not yet been figured in detail so it was impossible to say how much of the runs had been thrown upon the market in the course of the month.

20,000-Bbl. Well Extends Field

The most sensational incident of the past week was the extension of the field northeasterly by Dashko and others with a well that on Friday was flowing 20,000 bbls. a day. This well was in advance of all operations in that end of the field and while it was expected to be a producer, the tremendous volume of crude it poured out was a distinct surprise to all. It opens up a large amount of acreage for development and has changed the opinion of many oil men as to where the biggest production of the field lies, as the opinion is now freely expressed that Township 15-15 and especially the east half of it will produce fully up to the standard shown in Sections 3, 4, 5, 9 and 10 in Township 16-15. There is not a well drilling north, east or northeast of the Dashko well and only seven other wells drilling in all of Section 34, most of these being in the south half. It makes the acreage in the north half of Section 33 look very good and the Phillips Petroleum Co., which owns an 80-acre lease in the east half of the northeast quarter of Section 33 has made eight locations for immediate drilling. The Sinclair Oil & Gas Co., with the 80 acres comprising the NW NE and NE NW of Section 33 and The Texas Co., Unity Petroleum Co. (Skelly and others), Standard Oil Co. of Louisiana and the Gulf Refining Co. of Louisiana as the owners of the remaining acreage in the section appear to be "sitting pretty." In Section 34, where the Dashko well is, the Sure Oil Co. owns the offset 40 acres to the west, while the Standard, Humble, Murphy, Owenwood, Roxana and Arkansas Natural Gas Co. are all lease owners in the west half of the section with reasonable assurance of being in the production belt.

Price Increase

Notwithstanding that production increased over 20,000 bbls. between Wednesday and Thursday, the Standard Oil Co. of Louisiana increased the posted price for Smackover heavy crude from 40 cents to 60 cents on Friday. While this was a surprise in a way, it was a well known fact that 40 cents was far from the real price of Smackover crude. Repeated offers of 60 cents from outside buyers had been turned down and offers of 70 cents a barrel to some operators met with the same cold reception. Some outside speculators had sold Smackover crude short, expecting to buy it at 50 cents. When they came into the field to get the crude for delivery they were surprised to find no sellers at that price, so they were forced to run the market up. This, together with other demands, must have influenced the Standard Oil Co. to advance its posted price.

For example, the Southern Pipe Line Co. closed a contract with the Marine Oil Co. for the purchase of 100,000 bbls. of heavy oil at 60 cents per bbl. The Humble Oil & Refining Co. bought the George & Jones lease on the Umsted farm with its storage oil for a reported price of $275,000. Dr. Winship representing Louisiana sugar refiners bought 100,000 bbls. of crude from Clark & Greer at 60 cents, and unidentified parties bought 100,000 bbls. of crude from Broderick & Calvert at 60 cents.

Calvert at 60 cents. Following the posting of a 60-cent market price the Southern Pipe Line Co. bought 300,000 bbls. of heavy crude from the Natural Gas & Petroleum Co. at the market.

More Buyers

On top of this the Magnolia Petroleum Co. announced that it would lay a 6-inch line from Section 7-16-15 to its tank farm northeast of El Dorado and would be in the market for all the heavy crude the line would carry. The Shreveport-El Dorado Pipe Line Co. bought the Atlantic Oil Producing Co.'s 6-inch line from Section 33-15-16 to Section 31-15-15 and is now stringing a 6-inch line from this to Section 5-16-15 and will buy oil to the capacity of the line. Sam Richardson has leased 650 feet of right of way to a point 1 mile north of Norphlett and will build a 25-car loading rack and lay a line to his own production in Section 10-16-15.

Meanwhile the Standard Oil Co. of Louisiana has strung 2 miles of 10-inch line from Kenova, east to its proposed 100-mile line to the Mississippi River.

Smackover Varying Grades

The posting of a 60-cent price for Smackover crude of 23-23.9 gravity by the Louisiana Oil Refining Corp. previous to the Standard of Louisiana's posting of 60 cents for all crude below 24 degrees calls attention to the various grades of crude in the Smackover Field. The oil from the Nagatoch or 1,900-foot sand is of about 19 degrees, while the oil from the deeper Graves sand is around 21 and 22 degrees. The crude in the Louann district, ranges from 23 to 31 degrees and all above 25 gravity is known as Smackover light oil. The light crude averages about 27 degrees. Previous to the big production in the Graves sand in Townships 16-15 and 15-15 the whole body of Smackover crude averaged 22 degrees, but the tremendous production of oil from the Graves sand will lower this average by a fraction of a point.

Completions and Near Completions

Dashko and others' No. 2 Joyce, NW cor. SE SW NW, Section 34-15-15, the most northeasterly of the deep sand drilling wells came in flowing 2,000 bbls. on May 7 from sand at 2,367-77 feet, but on May 8 was flowing more than 500 bbls. an hour. Some watchers estimated the flow at 750 bbls. an hour or at the rate of 18,000 bbls. a day. On May 9 the production increased to 20,000 bbls. The Standard Oil Co. of Louisiana had already completed a well on the Powell farm in the SE cor. NW Section 34, which was the most northeasterly completion in the field. The new well is west and a location north of the Standard's well. It was not expected in the early days of the Smackover deep sand development that anything like 20,000-bbl. wells would be developed so far to the north and east. There is nothing drilling north or northeast of the Dashko operation but this will not be the case very long as locations have already been made for numerous wells.

The Unity Petroleum Co.'s No. 9 Roper, CEL NE SW, Section 3-16-15, started at 2,000 bbls. from sand at 2,365-85 feet.

The Roxana Petroleum Corp.'s No. 1-A Umsted, NE cor. W half Lot 1, NW Section 4-16-15, is a 1,500-bbl. well at 2,381-89 feet.

The Humble Oil & Refining Co.'s No. 8 Umsted, SE cor. NW NE Section 5-16-15 got sand at 2,362-70 feet and a 1,200-bbl. well.

The Sure Oil Co. completed No. 1 Hill CSL E half SW NE Section 6-16-15 in sand at 2,348-54 feet and it was making 20,000,000 feet of gas and 300 bbls. of oil.

The United Central Oil Co.'s No. 2 Murphy, SW cor. SE SE Section 8-16-15 was flowing 3,500 bbls. from sand at 2,484-89 feet.

The Lion Oil Refining Co.'s No. 2-E Murphy, NW NE SE Section 8-16-15 is a 2,000-bbl. well at 2,488-97 feet.

C. G. Murphy's No. 4 Murphy, CWL SW SE Section 9-16-15 started at 1,000 bbls. a day from sand at 2,451-62 feet.

The Gulf Production Co. made a 600-bbl. well out of No. 3 LeCroy, SE cor. NW NW Section 16-16-15 in sand at 2,488-95 feet.

The Shreveport Oil & Refining Co.'s No. 3 Umsted, CWL N half SE NW Section 4-16-15, sand at 2,367-74 feet, flowing 1,200 bbls.

Humble Oil & Refining Co.'s No. 5-B Lenniken, SW NW SW, Section 9-16-15, sand at 2,434-43 feet, flowing 900 bbls. This is a correction of a previous report, the information in which referred

(Continued on Page 152)

"WATER WITCH" DETERMINES POINT OF WATER ENCROACHMENT IN WELL

LOS ANGELES, Cal., May 12.—The most important advance in oil well mechanics since the introduction of the use of cement in shutting off water is the way oil men characterize the "water witch," invented by F. W. Huber, of Riverside, well-known oil well technician. The apparatus, operating through the application of electricity, is credited by its inventor and by prominent operators with solving the problem of how to determine the source of water in an oil well, thereby simplifying the complementary problem of shutting it off.

As expressed by Paul Paine, former vice president and general manager of the Shell Co. of California, the principal difficulty in the past in shutting off encroaching water in a well has been the difficulty of telling just where the water is coming from. It may come from below the shoe, or through the shoe, due to faulty cementing, or through a leak in the casing. Much time and expense has been necessary in the past to test these various possibilities, and very often the result of these tests has been inconclusive. By means of the water witch, according to oil men who have watched the apparatus work, the point of water ingress can be determined exactly in a few hours, and sometimes in a few minutes.

The water witch is based on the fact that clear water, without salts in solution, is a nonconductor of electricity, its conductivity increasing with the salts content. Mr. Huber, in developing his device, took into consideration the fact that all subsurface water carries salts in more or less quantity, and is therefore more or less conductive. Taking advantage of this fact, he conceived the idea of filling the subject well with clear surface water, of low conductivity. This is called conditioning the well, and is effected by running tubing to the bottom of the well and pumping clear water into it, until the fresh water has entirely replaced the mineralized water.

Having conditioned the well, Mr. Huber proceeds to run into the hole two electric wires, terminated by electrodes. In order to make a complete circuit and registered on an indicator in the derrick house, a spark must jump from one electrode to the other, and without a conductive medium this connection cannot be made. The two wires are lowered into the well 50 feet at a time, and readings taken on the indicator, which registers the resistance of the fluid in the well. As the electrodes approach the point where the salty water is coming into the hole, the resistance lessens and at the exact point of ingress is at its lowest.

The device has been tested out on between 90 and 100 wells, according to Mr. Paine, and, according to Shell officials, has resulted in the recovery of 1,000,000 bbls. of oil where ordinarily a third of this recovery might be expected.

W. S. McDuffie, present vice president in charge of field operations of the Shell Co. in California, has the following to say of the water witch:

"The Huber device has been used with considerable success on a number of wells operated by the Shell Co. in different parts of the State of California."

The Shell is now using the water witch in its California wells, and is introducing it in its operations in Oklahoma. It is being operated by the Oilfields Service Co., recently incorporated in California, which will operate the device along the same lines as various oil well cementing and core drilling companies conduct their operations. It is headed by Paul Paine as president, F. W. Huber, vice president, R. D. Elliott, formerly of the Standard Oil Co., as field manager, and John D. Hackstaff, former Mid-Continent operator, secretary.

Refiners Establish Throughput Record

Crude Runs to Stills of Mid-Continent Plants Largest in History. 74,525 Barrels Greater Than Year Ago

By Neil Williams

Breaking all previous records for the amount of crude used in one day, Mid-Continent refiners ran 398,940 bbls. to their stills May 1, according to the monthly survey made by The Oil and Gas Journal. The only other day which neared this mark was on February 1, when 388,310 bbls. of crude were run in the Mid-Continent.

Hopes of many for a decrease in gasoline production this month are fading as a result of the runs to stills May 1, which were 15,790 bbls. greater than those of April 1. The decrease in crude runs to stills this month is in contrast to the general trend of the previous two months in which steady declines in the runs were recorded. Crude runs of April 1 were 5,325 bbls. less than those of March 1 while those of March 1 also showed a decrease from those of the previous month.

Whether the increase in runs can be attributed to the large purchase of the Standard of New Jersey, amounting to 15,000,000 gallons of U. S. Motor (58-60, 437) gasoline the early part of April and the later buying of higher gravities for export is speculation but it is known that the increase in runs began about that time. The purchase originally was intended to take out of the Mid-Continent only the surplus gasoline.

May Be Due to Low Stocks

The increase in runs may indicate that gasoline stocks are lower than usual and that refiners are forced to increase gasoline production to meet the general buying. If this is the case the new buying of the past week may cause refiners to show a still greater gain in runs later in the month, setting another record. The strengthening of the gasoline market the past week may be another proof of this condition in that it points to a shortage of gasoline.

Although runs to stills increased May 1, the increased crude production of the Mid-Continent offset this. On May 1 the refiners took only 32.2 per cent of the crude produced in the Mid-Continent while on April 1 they ran 37.8 per cent. The total daily average crude production of the Mid-Continent as compiled May 2 by The Oil and Gas Journal was 1,236,475 bbls., of which the refiners took 398,940 bbls. On April 1, the daily production was 1,011,930 bbls., while refiners took 382,875 bbls. The production increase was due to the flush production of the Smackover Field in Arkansas. This is all low gravity crude.

While these figures apply to the entire Mid-Continent area, reports from Texas reveal that continued purchases of producing properties has brought about a distinct tightening of the crude supply available for refiners, especially in the Wichita Falls district. It was told that one refiner, who sought to increase his daily crude runs by 1,500 bbls., at the end of two days had made only one connection with 50 bbls., despite payment of a 15-cent premium.

Increased Runs General

The increase in runs was general throughout every district of the Mid-Continent, not a district recording a decrease. While Oklahoma led in the total amount of increase, North Central Texas, Kansas, Arkansas and North Louisiana also felt gains. Oklahoma refiners increased their runs 5,875 bbls.; North Central Texas refiners, 3,730 bbls.; Kansas, 2,015 bbls.; North Louisiana, 2,900 bbls., and Arkansas, 1,270 bbls.

MID-CONTINENT REFINING OPERATIONS

Table No. 1

(Based on plants which have been in operation during the past year.)

	No. Plants May 1	Capacities May 1	Plants Op. May 1	Dy. Runs May 1
Oklahoma	59	268,600	52	176,425
North Central Texas	46	170,050	39	91,175
*Kansas	24	119,000	22	82,390
North Louisiana	7	37,300	6	30,500
Arkansas	14	35,700	9	18,450
Total	150	630,650	128	398,940

*Includes two Missouri plants.

Table No. 2

Based on operations of all plants as of May 1, 1925, and April 1, 1925. Capacities includes all plants regardless of how long they have been shut down.

	No. Plants May 1, '25	Capacities. May 1, '25	Plants Op. May 1, '25	Dy. Runs May 1, '25	Plants Op. Apr. 1, '25	Dy. Runs Apr. 1, '25	Daily Inc. May 1, '25
Oklahoma	103	268,600	52	176,425	52	170,550	5,875
North Cent. Texas..	73	170,050	39	91,175	39	87,445	3,730
†Kansas	36	119,000	22	82,390	21	80,375	2,015
No rth Louisiana ..	7	37,300	6	30,500	6	27,600	2,900
Arkansas	15	35,700	9	18,450	10	17,180	1,270
Total	334	630,650	128	398,940	128	383,150	15,790

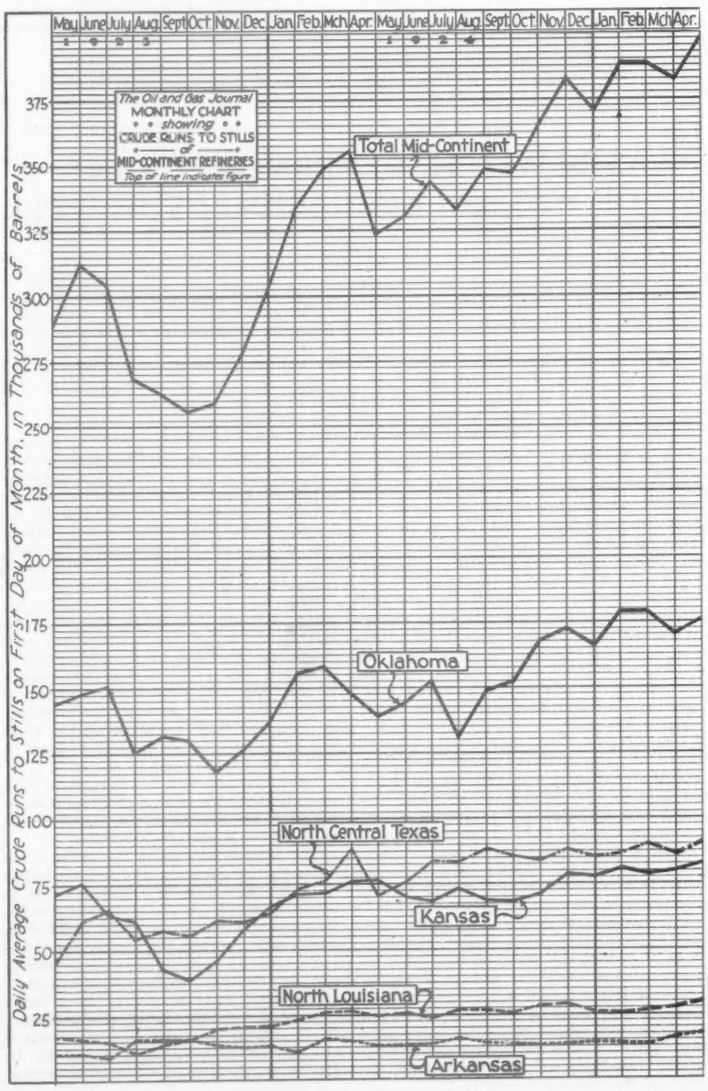
†Includes four Missouri plants..

Table No. 3

Based on operations of all plants as of April 1, 1925 and April 1, 1924)

	No. Plants May 1, 1924	Capacities May 1, 1924	Plants Op. May 1, 1924	Day Runs May 1, 1924	Dy. Increase May 1, 1925
Oklahoma	68	294,250	49	138,940	37,485
North Central Texas	46	165,800	29	70,675	20,500
*Kansas	32	138,200	22	77,050	5,340
North Louisiana	7	38,800	6	25,000	5,500
Arkansas	16	39,100	9	12,750	5,700
Total	169	676,150	115	324,415	74,525

*Includes four Missouri plants.



The gain cannot be attributed to new plants resuming operation as the same number of plants were reported operating May 1 as on April 1. There were 128 plants reported running on both dates. However, the increase was made by only 47 plants as 20 refineries reported decreases and the remainder ran the same amount of crude on both dates.

Although the same total number of plants were operating on both dates, there were some changes in the line-up. As it happened, the number of plants which shut down since the last report offset those which resumed operations. In Texas three plants resumed operations during the month. These were the Big Four Refining Co., at Panhandle; the Petroleum Corp., at Electra, and the Transcontinental Oil Co., at Fort Worth. Three plants also were reported shut down as follows: the Bridgeport Refining Co., at Bridgeport; the Crystal Petroleum Co., at Burkburnett, and the Orient Petroleum Co., at Wichita Falls. The plants which shut down only reduced the runs to stills 1,320 bbls., daily while the plants resuming operation added 3,800 bbls. daily.

In Kansas, the Miller Petroleum Co. at Humboldt, began running crude to stills during the past month and May 1 ran about 100 bbls. This plant has been doing only rerun work for several months. It still is rerunning some.

Starting up operations of the McMillan, Fehlman & Oliver plant at El Dorado, Ark., on April 1 proved only temporary as the plant now is shutdown. This plant took only 400 bbls. daily runs from the total Mid-Continent runs to stills.

No change is revealed in Oklahoma among the plants reported operating and shutdown for the two months.

Changes in Crude Runs

Several decided changes in the amount of crude run to stills at individual plants were revealed during the month. The Skelly Oil Co., plant at Eldorado, Kan., increased its runs from 7,900 to 12,190 bbls. daily. Vickers Petroleum Co., at Potwin, Kan., showed a gain of 500 bbls. daily from 2,400 to 2,900 bbls. The Sinclair Refining Co. at Coffeyville, Kan., made one of the outstanding gains increasing its runs from 5,000 to 6,100 bbls.

On the other hand, the Wilhoit Refining Co. of Joplin, Mo., which is listed in the Kansas plants, announces it will run only 300 bbls. daily now and will continue this policy until it is "cheaper to make gasoline than buy it." The Wilhoit company has a number of filling stations over southwestern Missouri and now is resorting to purchasing gasoline to supply these instead of making all of it as it previously has been doing.

The Waite Phillips plant at Wichita, Kan., made an increase of 1,000 bbls. daily in crude runs May 1 over those of April 1. On May 1 it ran 3,500 bbls. to the stills.

Two plants in Louisiana increased runs. The Louisiana Oil Refining Corp., at Shreveport and Bossier, ran 12,000 bbls. May 1 while on April 1 it ran only 10,000 bbls. The Texas Co., at Ardis, increased runs from 6,000 to 6,500 bbls. The Shreveport Producing & Refining Co. at Shreveport, decreased its runs from 4,000 to 3,800 bbls.

Although listed in the monthly survey as shut down, which it was on May 1, the Coleman-Nelson plant at West Tulsa resumed operations May 7 and will op-

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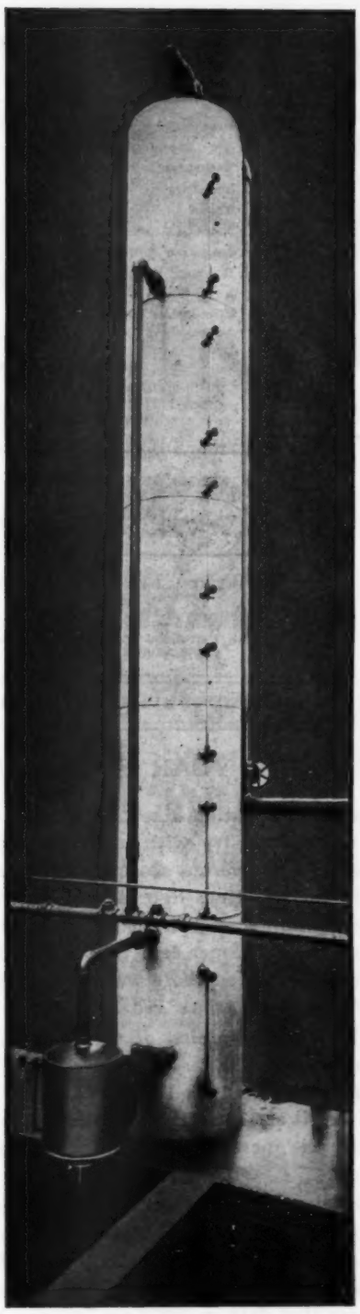

View of a 30"x20' Absorber, operating at 30 lbs. pressure, at the plant of the Waite Phillips Co., Beggs, Okla., extracting 6,500 gallons gasoline a day: PRICE - - $1,071.00

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The OIL and GAS JOURNAL

PRODUCING REFINING MARKETING

Published Weekly by
THE PETROLEUM PUBLISHING COMPANY
114-116 West Second Street
TULSA, OKLA.

Established as an International Publication in 1910 by Patrick C. Boyle

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GOOD YEAR FOR GASOLINE

The gasoline situation, like the light oil situation, is becoming favorable to the industry with increasing prospects of redeeming the promise of a prosperous season with which we entered 1925.

The Bureau of Mines figures for the first three months show an increase of 28.5 per cent in the domestic consumption of gasoline and an increase of 17.5 per cent in exports of gasoline.

For the same period there was an increase in the consumption of fuel and gas oils of 8.6 per cent.

It is the general opinion of the trade based upon actual sales that the consumption of gasoline during April far exceeded all records for that month and the Bureau of Mines statistics on stocks at the end of April are expected to make a much better showing notwithstanding the increased production in anticipation of the summer demands.

A comparison of the gain in stocks for the same months in the past three years is significant of the strength of the present position.

On January 31, 1923, there was a gain of 42 per cent over the same period of 1922; on January 31, 1924, there was a gain of 19.7 per cent over that date in 1923; on January 31, 1925, the gain over 1924 was 10.8 per cent.

On the last day of February, 1923, there was a gain of 40 per cent over that date in 1922; at the end of February, 1924, a gain of 22.4 per cent over that date in 1923, and on February 28, 1925, a gain of but 7.5 per cent in stocks over a year before.

At the close of March, 1923, there had been an increase in stock of 47.4 per cent over that on the same date of 1922; at the end of March, 1924, a gain of 26 per cent over that date in 1923, but at the close of March, 1925, the increase in stocks over the same date a year before was only 1.5 per cent.

Instead of a progressive increase in gasoline stocks during the first three months of the year there has been a progressive decline.

While some of the credit for this improvement in the statistical position of the industry is due to greater caution in manufacturing following the costly lessons in the past few years of the folly of overestimating the market and overproduction regardless of overhanging stocks, it must be recognized that the chief cause has been the unexpectedly large increase in consumption.

The weather has done more for the industry than the industry has done for itself. In the past two years the unseasonable spring, discouraging consumption, added to the difficulties arising from overproduction. This year it has been the other way around.

The better business outlook, generally reflected in the revival of automobile demand, is, moreover, in contrast to the commercial depression which was just beginning a year ago.

April was almost an ideal month for motor use this year and all sections of the country report an unprecedented use of gasoline. Not only are there continually more cars on the roads but they are being more and more used. The consumption of gasoline is being increased more by this greater use than by the actual increase in cars.

Everything points to a record season this year.

It will be unfortunate if, through the misguided efforts of any element in the business, these hopes are imperiled and disappointed.

The industry in the past two years has seen how easily this can be brought about by concentration on sectional interests instead of the welfare of the whole industry.

In times past producers have suffered from the desire of refiners to get their raw material as cheaply as possible and refiners in turn have suffered from the desire of distributors to get their refined products as cheaply as possible.

The effect of distributing interests depressing prices has been to limit the productivity of refiners and the decreasing demand for oil by refiners has curtailed the operations of producers.

The entire industry has reeled from a blow struck by one branch against another.

Extravagant assertions made recklessly to bolster argument have been seized by outsiders and used to poison the public mind against the industry. Political opportunists have used them to set up State and city competition against the industry and thus foment further popular agitation.

This was one of the "Follies of 1923," repeated and later confessed in 1924. At this late day, after all that costly experience, it certainly does not behoove any one in the oil business to point to State station prices as a standard for the industry.

As was demonstrated in "The Oil Industry's Answer," it is utterly impossible to set up a standard basic cost for making gasoline.

It is manifestly absurd and unfair to take, for instance, the operations of the most favorably situated and most efficient organizations and to say that their costs should fix the basic cost for the whole output.

Conditions and circumstances cause wide variations in the cost of production in any industry and particularly in the oil industry where grades and costs of the raw material vary so much and so frequently and where the products manufactured differ so widely in proportion from those grades.

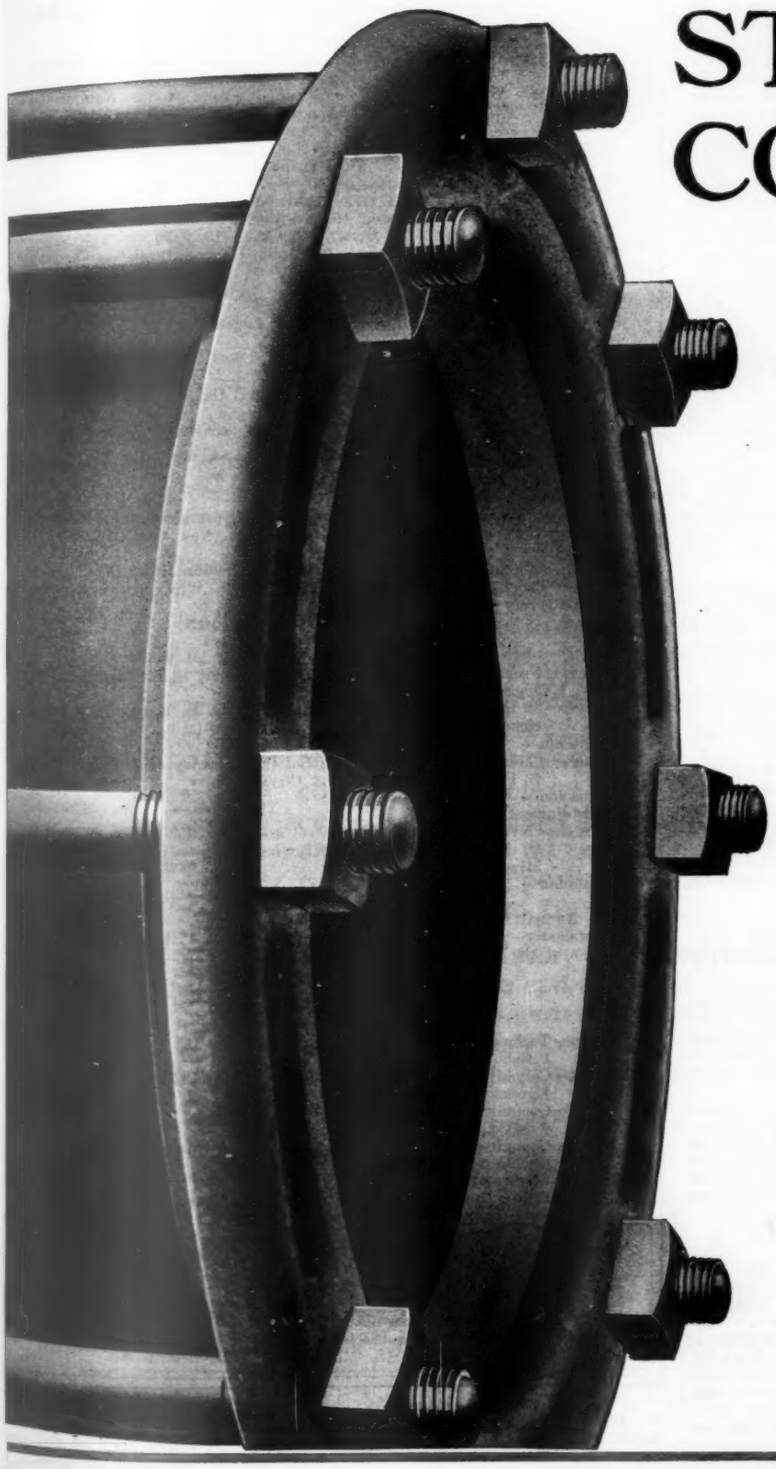
There can be no hard and fast answer to the question of how much gasoline is worth. There have been countless investigations, Federal, State and municipal, within the industry and outside of it, but, as "The Oil Industry's Answer" explained, there is no such thing as figuring down to a fraction of a cent, as some critics have attempted, just what should be the basic price of gasoline.

Take this year, for example. There have been sales below the cost of production in the hope of reducing the overhanging surplus and thereby obtaining a price that would recover a reasonable profit during the peak of consumption. They were sacrifice sales, such as are made in many businesses, where present loss is suffered with the hope of eventual evening up over the whole year.

Present prices, any one in the industry familiar with the facts will agree, are not out of line with the cost of production. Mere assertion to the contrary does not make it so.

Nothing can alter the fact that the industry must obtain prices that will justify its continuing operations if it is to supply the constantly increasing demand for its products.

DRESSER



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Dresser Steel Pipe Coupling Style 38 has been adopted generally in all fields for either high or low pressure work. It is used on every type of Plain End Steel Pipe and Plain End Cast Iron Pipe in all sizes from ½″ up.

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DRESSER-COUPLINGS-DOMINATE

ATLANTIC CITY TO BE MECCA OF GAS MEN FOUR DAYS NEXT WEEK

Natural gas men from all sections of the United States, including producers, pipe line men, distributors and makers of natural gas equipment and supplies, will meet in Atlantic City next Monday and for four days will consider and discuss problems and matters pertaining to the natural gas industry. The occasion is the twentieth annual convention of the Natural Gas Association of America and the annual meeting of the Natural Gas Supply Men, Inc.

The program of the convention has been arranged to provide ample opportunity to combine business with pleasure. Only one session of the convention will be held each day, starting about 9 o'clock in the morning and continuing until about 1 P. M. After that those attending the convention will be free to enjoy the many attractions at the famous seaside resort. The business sessions will be particularly interesting and it has been decided to open all committee meetings to the delegates and general public, and suggestions, constructive criticisms and discussions will be welcome at these committee meetings.

The exhibits of the supply men will be located on the Steel Pier and the meeting room on this pier will be utilized to a great extent for sessions of the convention.

The plan to throw open committee meetings to the entire membership of the association is a new departure in convention procedure inasmuch as a great many meetings of this character are held in executive session and the general membership is permitted to know only what is contained in the report the committee submits to the convention. It is the purpose of those who are guiding the affairs of the association to endeavor to bring about the closest possible relationship and greatest spirit of cooperation among the membership. For that reason the convention this year will be of far greater importance to the individual gas man.

In the swimming events scheduled by the supply men on the evening of the first day, some noted girl swimmers will participate and efforts have been made to enter talent from among the gas men.

FIRE PREVENTION SUB-COMMITTEE REPORTS RECOMMENDATIONS ON TANKS

By L. M. Fanning

NEW YORK, May 11.—The arbitration board authorized by the National Fire Protection Association to go into the controversy regarding spacing of above-ground tanks of flammable liquids, holding a final meeting in New York last week, failed to agree, after having discussed the report on records of oil tank fires made by a subcommittee of the American Petroleum Institute's Committee on Fire Prevention and Protection to Life and Property. Just what the next step will be remains to be seen but it is understood the petroleum industry will continue an aggressive fight against the National Fire Prevention Association's proposed revision of a suggested ordinance regulating the use, handling, storage and sale of flammable liquids which it had planned to recommend for adoption by towns and municipalities and which was scheduled for consideration at the annual meeting of the association held in Chicago, May 12, 13 and 14. In fact, the move for consideration of the petroleum industry's report and findings was to be carried to the floor of the Chicago meeting.

The work of the subcommittee represents the first complete survey of oil tank fires in the nited States. .It provides for the first time to oil company engineers a fire record of the industry and what the industry regards as safe regulations; and will give the companies the material upon which to base their dealings with local authorities in matters involving fire protection of tanks.

The summary of the subcommittee's findings follows

"The subcommittee finds that the composite tank fire record of the oil industry is a most remarkable one. Considering the nature of the commodities handled, the fire frequency in such tanks is much lower than might be expected. As a result of its study the committee recommends

"1. For above-ground, gas-tight containers the records indicate that gasoline, kerosene and refined oils, and fuel oil should all be placed in the same classification. Crude oil presents a different hazard and should be classified separately.

"2. The following spacings between above-ground, gas-tight containers and line of adjoining property which may be built upon are recommended:

(a) For class 1, 2 and 3 liquids (except crude oils), one tank diameter.

(b) For crude oils, two tank diameters.

(c) When an approved chemical fire extinguishing system is provided, one-half the tank spacings above specified may be used.

"3. Above-ground, gas-tight containers for crude oils should be surrounded by fire walls or dikes of earth or other suitable material, and should be:

(a) of a capacity equal to that of the tank or tanks surrounded, unless adequate drainage to a sump of like capacity is provided;

(b) located not nearer to the shell of any of the enclosed tanks than the diameter of the largest tank enclosed, and in any case not less than 50 feet;

(c) provided with a suitable coping projecting inward to turn back boil-overs."

REFINERY AT ORANGE MAY RESUME SHORTLY

HOUSTON, Tex., May 11.—Following an inspection of the plant by F. A. Templeton of Thurber, Texas, an experienced refinery man, it is announced that the old refinery at Orange may resume operations in the near future.

The plant was built more than 15 years ago to run coastal crude. It has a capacity of 1,200 bbls. daily and, if reopened, will be run on crude from the Orange pool. The refinery has changed hands several times in the last 10 years.

SOUTH VERNON SALE

WICHITA FALLS, Tex., May 9.—Ray & Massie have sold their holdings in the South Vernon Pool in Wilbarger County to Dr. E. C. Gooch for a consideration of $160,000. The property is in Section 100 H. T. C. R. R., Block 14, Bond. Hawkins and others is in the heart of the South Vernon production area and consists of 30 acres with eight wells producing 600 bbls. daily, and also two wells drilling.

JENKINS PROCESS CO. MOVES

CHICAGO, May 9.—Offices of the Jenkins Process Co., have been moved to the American-Fore building at 844 Rush Street.

CLAIM OIL "DETECTOR"

PITTSBURGH, Pa., May 9.—H. L. Lambert and F. M. Sears, of Lamberton, W. Va., claim to have invented an instrument by which they can walk over the surface and detect the presence of oil. "Oil smellers" and inventors of devices for locating oil, gas and minerals have been legion in the past but none ever acquired fame.

PROGRAM 20TH ANNUAL CONVENTION NATURAL GAS ASSOCIATION OF AMERICA, MAY 18-21

MONDAY MORNING, MAY 18

(All time noted is daylight saving time)

9:30 A. M.—Exhibits open on Steel Pier.

10:00 A. M.—Meeting of the Technical and Research Committee, at the Traymore Hotel (See bulletin board) H. C. Cooper, chairman, Pittsburgh, Pa., and sub-committees.
Committee on Gas Measurements, Forrest M. Towl, chairman, New York City.
Committee on Gas Transportation, H. D. Hancock, chairman, Bartlesville, Okla.
Committee on Gas Utilization, E. D. Leland, chairman, Pittsburgh, Pa.
Electrolysis Correlating Committee, J. D. Creveling, chairman, New York City.

MONDAY AFTERNOON AND EVENING

2:00 P. M.—Annual Meeting—Natural Gas Supply Men, Inc. (Meeting Room—Steel Pier).

5:00 P. M.—Annual Meeting—Board of directors of the Natural Gas Association of America, at the Traymore Hotel (See bulletin board).

6:00 P. M.—Annual Dinner—Board of directors of the Natural Gas Association of America, at the Traymore Hotel.

8:15 P. M.—Hygeia Pool, Boardwalk—Swimming Events.

FIRST GENERAL SESSION
(Meeting Room—Steel Pier)
TUESDAY MORNING, MAY 19, 9:30

Opening Remarks—President John B. Corrin, Hope Natural Gas Company, Pittsburgh, Pa.
Invocation—
Address—President John B. Corrin,
Report—Memorials Committee, K. C. Krick, Logan Gas Co., Columbus, Ohio.
Reports—Board of Directors,
Treasurer,
Membership.
Address—James H. Henderson, Peoples Natural Gas Co., Pittsburgh, Pa.
Discussion—
Report—Wrinkle Committee, W. Re. Brown, chairman, Ohio Fuel Gas Co., Columbus, Ohio.
Report—Committee on Wrinkle Awards for 1924, F. F. Schauer, chairman, Equitable Gas Co., Pittsburgh, Pa.
Entertainment—
Address—"The Value of Service," P. G. Gossler, president and chairman of the board, Columbia Gas & Electric Co., New York City.
Discussion—
Review—"Twenty Years Ago," C. W. Sears, Wichita, Kans.
Paper—"The Natural Gas Industry," William B. Way, general secretary.
Discussion—

SECOND GENERAL SESSION
(Meeting Room—Steel Pier)
WEDNESDAY MORNING, MAY 20, 9:30

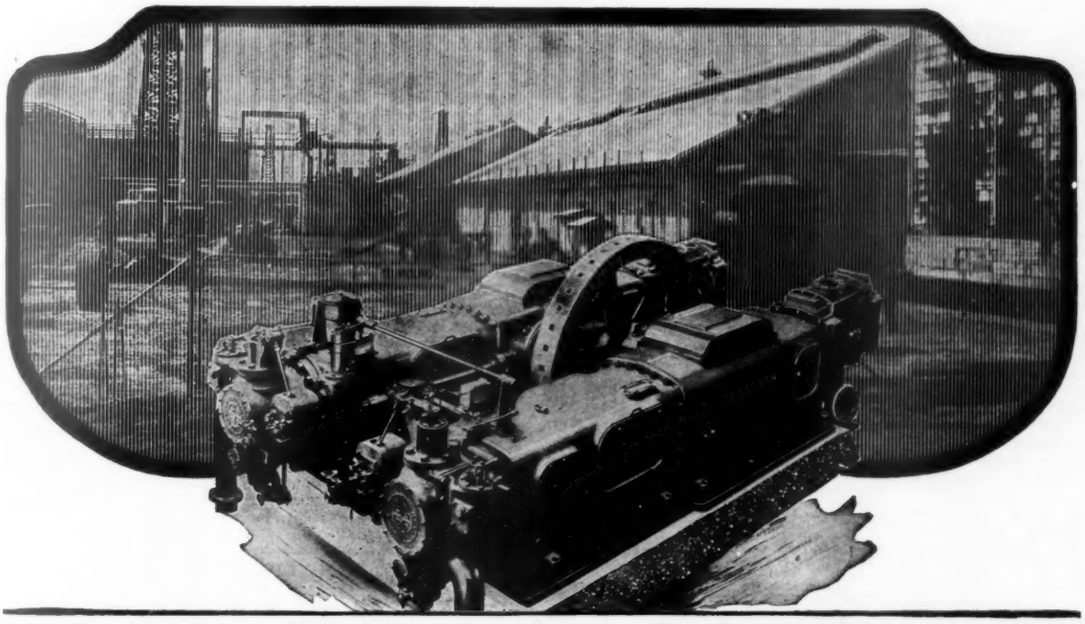
Report—"Progress of the Magazine," H. J. Hoover, Blaine Thompson Co., Cincinnati, Ohio.
Address—"Fundamentals of Heat Application," C. F. Kettering, president General Motors Research Corp., Dayton, Ohio.
Discussion—
Address—"House Heating and Industrial Gas," Henry L. Doherty, Henry L. Doherty & Co., New York City.
Discussion—
Entertainment—
Address—"New Methods for the Control and Operation of Gas Wells," E. O. Bennett, Natural Gas Engineer, United States Bureau of Mines, Bartlesville, Okla.
Discussion—

WEDNESDAY EVENING, MAY 20, 7:15

20th Annual Dinner—Traymore Hotel.
Toastmaster—A. W. Robertson, Equitable Gas Co., Pittsburgh, Pa.
Guests of the Evening—John J. Gribbel, Philadelphia, Pa., Willard Scott, Brookline, Mass.

THIRD GENERAL SESSION
(Meeting Room—Steel Pier)
THURSDAY MORNING, MAY 21, 9:30

Report—Technical and Research Committee, H. C. Cooper, chairman, Pittsburgh, Pa.
Report—Committee on Gas Measurements, Forrest M. Towl, chairman, Eureka Pipe Line Co., New York City.
Report—Committee on Gas Utilization, E. D. Leland, chairman, Equitable Gas Co., Pittsburgh, Pa.
Report—Committee on Gas Transportation, H. D. Hancock, chairman, Empire Companies, Bartlesville, Okla.
Report—Electrolysis Correlating Committee, J. D. Creveling, chairman, Henry L. Doherty & Co., New York City.
Report—Representative on American Cast Iron Pipe Standards Committee, F. F. Schauer, chairman, Equitable Gas Co., Pittsburgh, Pa.
Report—Representative on Gas Safety Code Correlating Committee, Donald McDonald, chairman, American Meter Co., New York City.
Report—Committee on Place of Meeting.
Report—Committee on Nominations.
Election—Officers and Directors.
Report—Committee on Final Resolutions.



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BESSEMER OIL FIELD ENGINES – COMPRESSORS VACUUM PUMPS – ROLLER PUMPING POWERS

Late News From the Fields

GULF COAST

HOUSTON, Tex., May 12.—The Gulf Production Co.'s No. 1 Smith, at High Island, a partially developed dome in the eastern part of Galveston County, is flowing 1,200 bbls. at 3,200 feet. It is located between the dome and the Gulf of Mexico.

SOUTHWEST TEXAS

SAN ANTONIO, Tex., May 12.—Three more wells south of production at Lockhart look like producers, in addition to the Randolph well on the Brownlee-Betty lease, greatly extending the field. On the Marland Oil Co.'s E. T. Lackey lease, nearly 4,000 feet south of the discovery well, the E. L. Smith Oil Co. found the Serpentine and an oil showing at the regular depth, 1,700 feet southwest of the Randolph. It will probably make a well. Armstrong is setting casing in the Riddle well, over 1 mile south of the field, having topped the Serpentine with a showing of oil, and Cope, on the Beaty lease, between the Armstrong and Randolph tests, is said to have a well. The Gulf Production Co. has most of the acreage which these wells prove up but The Texas Co. and Magnolia Petroleum Co. each has a 50-acre block.

The Grayburg Oil Co. has a good well in No. 2 F. A. Gomillion, on the north edge of the field. The Humble company completed No. 8 L. Brewer, an inside location, making 500 bbls.

OKLAHOMA

The northeast edge of the Cromwell Pool may be defined by the McMan Oil Co.'s No. 4, NW cor. NE SW, Section 34-11-8, which has a hole full of water in sand at 3,370-78 feet.

The Sinclair Oil & Gas Co.'s No. 25 Belveal, which started the deep sand development at Garber, is producing 2,105 bbls. daily.

At Wewoka, W. R. Ramsey's No. 4 Salinda, SE cor. NW SE, Section 31-8-8, is making 48 bbls. per hour from sand at 3,247-55 feet. Boggs & Sykes' No. 6-A Willis, SW cor. SE NE, Section 31-8-8, is making 600 bbls. from sand at 3,226-45 feet.

The Amerada Petroleum Corp.'s well, NW cor. NE, Section 12-11-7, has a hole full of water in the Cromwell sand at 3,550 feet. The 6-inch is being underreamed to drill deeper.

Average daily production in the principal fields of Oklahoma for the week ending April 6, was as follows:

Burbank Field

Company—	Well	Prod.
Carter Oil Co.	258	8,200
Mid-Cont. Pet. Co.	106	2,152
Comar Oil Co.	7	128
Devonian Oil Co.	16	198
Gypsy Oil Co.	196	4,016
Kewanee O. & G. Co.	25	369
Laurel O. & G. Co.	16	206
Lorraine Pet. Co.	15	130
Midland Oil Co.	37	1,053
Mid Kans. O. & G. Co.	40	1,327
Peters & Oliphant	2	140
Phillips Pet. Co.	143	12,678
Phillips Pet. Co. and Delmar Oil Co.	16	1,168
Phillips Pet. Co. and Skelly Oil Co.	176	3,814
Prairie O. & G. Co.	106	1,904
Prod. & Ref. Co.	29	373
Roxana Pet. Corp.	55	617
Simons & Moore	29	256
Sinclair O. & G. Co.	144	2,429
Skelly Oil Co.	23	323
Tidal-Osage Oil Co.	43	556
The Texas Co.	14	638
Twin State Oil Co.	24	327
Lewis Oil Co.	3	477
Total	1,523	44,589

Kay County Extensions

Company—	Wells	Prod.
George Bole	3	262
Carter Oil Co.	11	1,089
Comar Oil Co.	19	971
Mid-Cont. Pet. Co.	16	1,108
Gypsy Oil Co.	19	334
Laurel O. & G. Co.	5	119
Mid Kans O. & G. Co.	10	742
Phillips Pet. Co.	31	3,289
Prairie O. & G. Co.	4	173
Pure Oil Co.	5	350
Roxana Pet. Co.	8	284
Dye & Tomlinson	8	501
Skelly Oil Co. and Phillips Pet. Co.	20	449
Sinclair O. & G. Co.	5	231
The Texas Co.	16	266
Twin State Oil Co.	15	1,118
Total	195	11,286

Cromwell Field

Company—	Wells	Prod.
Amerada Pet. Co.	10	619
Berry Pet. Co.	1	31
Burke-Greis	4	302
Carter Oil Co.	42	6,608
Carter Oil and Gardner Pet. Co.	8	47
Central Natl. Pet. Co.	8	506
Continental Oil	6	942
Mid-Cont. Pet. Corp.	32	1,158
Empire Gas & Fuel	3	235
Gilliland Oil Co.	8	70
Gypsy Oil Co.	49	6,270
Gypsy Oil Co. and Laurel Co.	5	1,440
T. B. Hoffer et al.	3	51
Holmes & Jarvis	1	5
Houston Oil & Gas	3	873
Indept. Oil & Gas Co.	3	38
Kingwood Oil Co. and Sinclair Oil & Gas Co.	4	50
McMann Oil Co.	14	1,988
Mid Kans Oil & Gas Co.	4	280
Prairie O. & G. Co.	8	1,022
Pure Oil Co.	9	118
Roxana Pet. Co.	23	1,700
Shaffer Oil & Rfg. Co.	8	297
Sinclair O. & G. Co. and Gardner Pet. Co.	7	3,345
Sinclair O. & G. Co.	28	7,479
Snowden & McSweeney	3	545
Southwestern Pet. Co.	17	3,376
Superior Oil Co.	6	208
Tidal-Osage Oil Co.	11	1,734
H. F. Wilcox Oil & Gas	7	64
Waite Phillips Pet. Co.	13	1,431
White Eagle Oil Co.	1	64
Total	348	42,926

South Weleetka Field

Company—	Wells	Prod.
Magnolia Pet. Co.	4	275
Mid Kans Oil & Gas Co.	10	424
Tidal Osage Oil Co.	17	1,274
Total	31	1,973

Yeager Pool

Company—	Wells	Prod.
Dixie Oil Co.	1	408

Wewoka Field

Company—	Wells	Prod.
Berry Petroleum Co.	1	515
Beggs & Sykes	7	842
Dixie Oil Co.	36	2,085
Gypsy Oil Co.	3	474
Homokla Oil Co.	2	37
Indept. O. & G. Co.	8	222
Lewis & Clark	1	47
Magnolia Pet. Co.	26	1,723
Prod. & Ref.	18	1,775
W. R. Ramsey	3	710
W. R. Ramsey et al.	8	3,390
Roxana Pet. Corp.	3	350
Shaffer O. & Rfg. Co.	7	1,302
Sinclair O. & Gas Co.	1	30
Total	124	13,512

Papoose Production

Company—	Wells	Prod.
Amerada Pet. Co.	3	866
Arkansas Fuel Oil Co.	1	3
Berry Pet. Co.	3	154
Carter Oil Co.	8	2,355
Mid-Cont. Pet. Corp.	15	3,159
Foster Inv. Co.	7	344
Gilcrease Oil Co.	3	42
Gilcrease Oil Co. and Papoose Oil Co.	1	5
Gypsy Oil Co.	3	404
Indept. Oil & Gas.	15	3,718
Indept. Oil & Gas and Atlantic Oil Prod. Co.	1	113
Indian Terty. Ill. Oil Co.	5	718
Jennings Brothers	1	50
Josey Oil Co.	2	217
Kingwood Oil Co.	10	1,070
Magnolia Oil Co.	2	22
Continental Oil Corp.	1	40
Papoose Oil Co.	12	714
Prairie Oil & Gas Co.	8	734
Phillips Pet. Co.	2	1,019
Robinson and Amerada Pet. Co.	6	1,437
Skelly Oil Co.	1	135
T. B. Slick et al.	36	5,063
T. B. Slick and Gypsy Oil Co.	4	1,071
Transcontinental Oil Co.	11	1,249
H. F. Wilcox Oil & Gas	1	70
Mid West & Gulf Co.	1	170
Total	163	24,943

Holdenville District

Company—	Pipe Line Runs
Mid-Cont. Pet. Co.	6,445
Gulf Pipe Line Co.	3,848
Magnolia Pet. Co.	10,113
Oklahoma Pipe Line Co.	15,118
Ozark Pipe Line Co.	7,271
Prairie O. & G. Co.	17,578
Producers & Refiners Co.	913
Shaffer O. & R. Co.	1,599
Sinclair O. & G. Co.	18,030
Empire Pipe Line Co.	1,387
Pure Pipe Line Co.	421
Consolidated Pipe Line Co.	1,395
Storage	51
Total	84,169

NORTH CENTRAL TEXAS

FORT WORTH, Tex., May 12.—Due to heavy increases in the production of Reagan County, Stephens County, Archer and Young Counties, the average daily production of the North Texas fields, according to estimates late in the week is showing a gain of about 8,700 bbls., over the production of a week ago, being 166,500 bbls., compared with 157,795 bbls.

Reagan County now has a daily average of 29,124 bbls., Stephens County an average of 17,855 and Young County an average of 12,145 bbls. Archer County is showing a big gain over the production of a week ago. Latest estimates give Archer 41,065 bbls., compared with 37,240 bbls. last week.

The Eastland Oil Co.'s No. 3 Keynard, in Mitchell County, is a new producer, swabbing at the rate of 115 bbls., after a shot of 330 quarts at 2,912 to 3,058 feet.

In Wilbarger County, the Atlantic Oil Producing Co.'s No. 4 Zipperle is estimated at 200 bbls. from sand at 1,298 to 1,310 feet and the Consolidated Oil Co.'s No. 1 Waggoner, in Section 4, showing for a producer, pumped 65 bbls. of oil and 6 bbls. of water in 14 hours. This well is in the new pool opened recently on the Waggoner Ranch by Levy and others.

In Wichita County, Jack Sadler, trustee's No. 1 Mitchell, is estimated at 150 bbls. from sand topped at 1,501 feet and drilled into about 18 inches. Preparations are being made to put the well on the pump.

The Texhoma Oil & Refining Co.'s No. 3-E Burnett is swabbing at the rate of 80 bbls. from sand at 1,920 to 1,924 feet.

SMACKOVER PRODUCTION

EL DORADO, Ark., May 12.—The deep sand in Smackover produced 341,405 bbls. for the 24 hours ending Monday morning at 7 o'clock from 141 flowing wells. Thirty-three other completions were not producing. The daily average deep sand producing for the seven days ending Monday at 7 a. m. was estimated at 309,534 bbls. There were 41 completions during the week and 84 new locations were made. A count made Monday showed 364 wells drilling for the deep sand. The deep sand is credited with a production of 5,000,000 bbls. for the 20 days ending May 10.

ARTESIA, N. M., FIELD

ARTESIA, N. M., May 11.—An option, it is reported, has been taken on the holdings of Flynn-Welch & Yates in this field by the Continental Oil Co., who is now checking the production of the many wells of the Illinois operators The Ohio Oil Co., one of the most active of the major companies in the field, increased its holdings during the past week by the purchase of the Toomey-Allen acreage consisting of one 160-acre tract and five scattered 40 acres. The quarter section is the SE of Section 28-18-28, which appears to be one of the best pieces of land in the field, it adjoining the highly productive lease of the Twin Lakes Oil Co. on the east. The 40s were checkerboarded in and around the proven area.

Following the finding of a shallow pay in the W. C. Wells' No. 1 test in the center of Section 19-20-30, which made considerable oil of a low gravity from a depth of 1,640 feet, the hole was deepened 20 feet, going into salt water. This will be cased off and the hole carried down.

The completion of a number of wells close to the sand has been delayed on account of fishing jobs. One of these, Dale C. Cheesman's No. 1, after making some oil from a depth of 1,888 feet, dropped a string of tools to the bottom of the hole. The completion of this well and the Goodale test, which has been shut down due to boiler trouble, are expected to extend the field for several miles to the east. Some oil is also being made in the Flynn-Welch & Yates-Dunn's No. 1 permit well in Section 10-18-28 from around 2,230 feet. It is believed this well will have to go to 2,325 feet for the Roswell sand.

Cleaning Wells With Compressed Air to Be Discussed at Meeting

The Mid-Continent section of the American Institute of Mining Engineers will hold a meeting Friday evening, May 15, in the commissioners' room, Municipal Building Tulsa.

A. A. Beard, vice president and general manager of the Tidal Oil Co., will be the principal speaker, giving a talk on "The Cleaning Out of Wells With Compressed Air." This method of cleaning out wells is just beginning to be used extensively. It is generally known as the "Dunn Cleaning Out Process." It was started about 3 years ago in Ohio, but it was only about a year ago that a portable compressed air plant was devised and the method used in Oklahoma. It is being used successfully in the Burbank Field, Bartlesville-Dewey district, Nowata district, and the Burkburnett Field in Texas. Wells have been cleaned out by this method in an average of three days when it formerly took from 10 days to a month, and the expense is only a fraction of what it was by the old method. Mr. Beard is an authority on this subject and this should make a very interesting meeting as it is the first time anything has been given in public on the subject.

Charles V. Milliken, of the Amerada Petroleum Corp., is also going to give a talk on "The Use of Gas Meters for the Determination of Pay Strata in Oil Sands."

John Lovejoy of the Amerada Petroleum Corp., is chairman of the division and Mr. Milliken, secretary. The section plans to hold frequent meetings on technological subjects during the year. The public has been invited to all meetings and it is the especial desire of the division that production men attend these gatherings.

Jurisdiction of Court On Cracking Process Challenged in Trial

CHICAGO, May 9.—Federal Judges A. B. Anderson of Indianapolis, and George T. Page and Evan Evans of Chicago formed a special expediting court Friday to determine whether the Federal Government has a right to attack "cracking process" patents in its suit against 51 oil companies accused of acting in restraint of trade.

The brief charged that by granting rights under present and prospective patents, provision was made for extending the alleged combination and monopoly far beyond the life of any patent now owned by any of the defendants. It is alleged for the Government that, protected by the pooling arrangements, each was protected from attacks by the others and the whole enabled to maintain a solid front to all manufacturers of gasoline who were compelled by competing conditions to avail themselves of the economies resulting from the use of the cracking process.

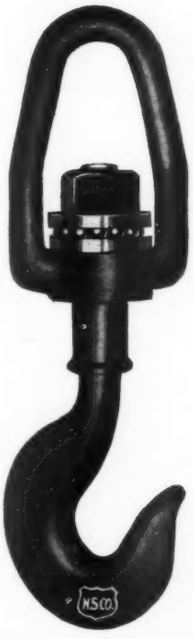
The brief for the defendants, filed jointly by Judge C. B. Adams for The Texas Co., and Chauncey W. Martyn, for the Standard Oil Companies, claimed that the issue was solely as to any violation of the Sherman Act in the matter of contracts between the defendants and that no issue was raised in the petition regarding the scope, validity or interpretation of the patents and that patents issued by the Government cannot be attacked in a collateral proceeding nor can it attack the validity of a patent in a suit under the Sherman Act. It was also maintained by Judge Adams and his associates that the contracts and agreements entered into by the defendants were within the rights covered by the patents. H also qustioned the right of the court to take up the matter of patent rights under patents claiming that the Congress had set up courts to act upon patent matters and that the United States District Court was not one of such tribunals.

At the close of the hearing the decision of the court was reserved and the care taken under advisement. The question of jurisdiction raised is evidently important.

BOURQUE SEC.-TREAS.

A. V. Bourque was elected secretary-treasurer of the Association of Natural Gasoline Manufacturers at a luncheon of the executive committee at the Mayo Hotel Tuesday noon. Mr. Bourque has been secretary but the committee voted to combine the offices of treasurer and secretary when O. W. Crick, who has been treasurer, asked to be relieved because of personal business.

NATIONAL STANDARD HOOKS



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North-Central Texas Field

By George R. Kelley

Three completions add aggregate of 8,338 bbls. new production in Big Lake Field, Reagan County; Texons No. 7 University, 5,040 bbls. flush; Big Lake's No. 16 University, 2,560 bbls. Three others uncompleted show for big producers. New work in southern Stephens County. Shackelford area extended.

FORT WORTH, Tex., May 11.—The Big Lake Field of Reagan County gives promise of being one of the most active districts in the whole of the North Central Texas territory for the next few months. During the past week the field accounted for three new completions with an aggregate new production of 8,338 bbls. One was the Texon Oil & Land Co.'s No. 7 group 1 University, which has a flush production of 5,040 bbls. The others are wells of the Big Lake Co., No. 14 University making 738 bbls. and No. 16 University 2,560 bbls.

In addition there are three other new wells, not yet completed, showing for big producers. Late reports are that the Texon Oil & Land Co.'s No. 6 group 1 University is flowing oil at the rate of 150 bbls. an hour from sand topped at 2,892 feet and drilled to a total depth of 2,952 feet. This company's No. 8 group 1 University is also flowing oil at the rate of 125 bbls. an hour. Sand in this well was topped at 2,914 feet and was drilled into a total of 26 feet. It is reported this well will be drilled deeper.

The Big Lake Oil Co.'s No. 23 University is also a new producer, uncompleted. It hit the top of the pay at 2,914 feet and at 31 feet in the well is flowing at the rate of 210 bbls. an hour. None of these wells is outside the proven area and all were naturally expected to be good producers.

New Work in Stephens

The bringing in of the Pritchard well of Berkley & George in the southern part of Stephens County has had the effect of starting a lot of new work in that immediate territory. Probably a score of new locations have already been made and in the immediate vicinity of the Pritchard well at least a dozen new rigs are going up. Most of this work is being done by the smaller independent operators.

In the extreme northern part of Stephens County, near the Young County line Cox and others have a well on the Cunningham lease, their No. 1, which late in the week was flowing 335 bbls. Pay was found at 3,185 feet and its has been drilled to a total depth of 3,199 feet. The well gives promise of opening some new territory, being about 1 mile from the nearest production, which is on the Hill lease of the Mid-Kansas Oil & Gas Co.

Shackelford Extension

Considerable interest is being shown in the bringing in of a new well in Shackelford County by the Phillips Petroleum Co., No. 2 Parish. It extends the producing area one-half mile to the south of any other production in that section of Shackelford County. Pay was found at 2,084 feet and the sand was penetrated only 5 feet. The well, according to latest reports, was flowing about 1,030 bbls.

From the same sand and almost exactly the same depth as the Parrish, Wilson and others' No. 1 Elliott, in Shackelford County is flowing at the rate of 450 bbls. Top of pay in this well was found at 2,084 feet and it was drilled to a total depth of 2,092 feet.

The Independent Oil & Gas Co. of Oklahoma is becoming actively interested in the North Texas fields. Frank Kelsey, formerly with the Prairie Oil & Gas Co., but who for the past several years has been operating independently in north Texas, has been placed in active charge of operations. The company is drilling one well in Archer County, No. 1 Bloodworth being down 900 feet. The company is ready to start active drilling on No. 1 Taack in northern Young County and has made the location for No. 1 Reed in the south half of Wilbarger County. North Texas headquarters will be maintained in Fort Worth.

There is nothing of particular interest from the Texas Panhandle with the exception of the bringing in of an oil well in Potter County, the first well drilled in that county to encounter oil in anything like commercial quantities. Several unusually large gas wells have been drilled there. The new oil producer is the Amarillo Oil Co.'s No. 1 Warrick, reported making oil in a pay formation, probably the granite wash, at 3,087 to 3,107 feet. On an 18-hour test it flowed at the rate of 7 bbls. an hour.

In Wheeler County Whittington and others' No. 3 Williams & Laycock is spraying a very small amount of oil, probably 10 bbls., from the granite wash formation at a total depth of 2,235 feet. It is being drilled deeper and unless larger flow is encountered it will probably be shot at the present depth.

Archer and Young

There are several new wells not yet listed as completions in both south Archer and north Young County. In Archer Moore and others' No. 3 Rogers is estimated 75 bbls. in sand at 1,272-77 feet, and Muse and others' No. 1 Lowe, is rated 160 bbls. from pay sand topped at 1,257 feet and penetrated 10 feet.

McGregor and others' No. 6 Llewellyn, also in Archer County, is reported swabbing, before completion, at the rate of 430 bbls., from sand at 1,444-49 feet. In the new pool opened up by the Major Petroleum Co. southeast of Archer City, Jack Clark's No. 2 Cowen is making 120 bbls., from sand topped at 1,083 feet and drilled at 1,094 feet. This is an old well drilled deeper from 1,025 feet, where it was completed at a 25-bbl. producer about a year ago.

In north Young County Murchison and others is classed as a 65-bbl. producer from sand at 1,200 to 1,208 feet and Norton and others' No. 7 Hamilton is estimated as a 50-bbl. well at 1,212-19 feet.

In Wichita County Hammond and others' No. 2-A McCarty is estimated good for 40 bbls. from sand at 1,185 to 1,201 feet. It is not yet completed.

This week fell considerably short of last week in the number of wells completed, though new production was nearly twice as much this week as last. Total completions this week were 79, of which number 54 were producers with new production amounting to 13,180 bbls. This compares with 97 completions last week, 56 of which were producers making only 7,164 bbls. of new production.

New Production

Heavy new production this week comes almost entirely from Reagan County. Archer County had only 1,043 bbls. of new flush while Wilbarger County had 1,372 bbls. of new production. Reagan County accounted for 8,338 bbls. of new production.

Archer County made another rather poor showing this week, completions being only 25, of which 17 were oil wells and 8 failures. Wichita County had 12 completions, 7 producers and 5 dry holes, while Wilbarger County reported 11 completions with 10 producers and only 1 failure.

Young County also made a good showing in the ratio of producers to dry holes. This county reported eight completions, seven producers, making 672 bbls. of new production. Stephens County reported six completions, only two producers, four being failures, and Eastland County reported only one completion, a small producer. The wildcat districts had 16 completions, 10 producers 5 failures and 1 gas well making 15,000,000 feet of gas daily.

Production this week shows a gain of 477 bbls. over average daily output a week ago. The gain was principally in Reagan and Stephens counties, Reagan gaining close to 1,500 bbls., and Stephens County showing a gain of nearly 700 bbls. Carson County also showed a slight increase. These increases were largely overcome by declines in some of the older producing districts.

Total production this week is 157,802 bbls., as against 157,325 bbls. last week.

PRODUCTION REPORT

For the Week ending May 7, 1925

Burkburnett		
Gulf Production Co.	667	
Humble Oil & Refining Co.	400	
Magnolia Petroleum Co.	2,860	
Panhandle Refining Co.	295	
Prairie Oil & Gas Co.	10	
Sinclair Oil & Gas Co.	40	
The Sun Oil Co.	140	
The Texas Co.	530	
Texhoma Oil & Refining Co.	395	
Miscellaneous	8,300	
Total		13,637
ELECTRA		
Empire Gas & Fuel Co.	1,100	
Gulf Production Co.	938	
Humble Oil & Refining Co.	100	
Magnolia Petroleum Co.	3,930	
Panhandle Refining Co.	59	
The Texas Co.	3,625	
Texhoma Oil & Refining Co.	1,790	
Miscellaneous	5,765	
Total		17,307
Iowa Park		
Gulf Production Co.	40	
Humble Oil & Refining Co.	10	
Magnolia Petroleum Co.	615	
Panhandle Refining Co.	40	
Texhoma Oil & Refining Co.	50	
Miscellaneous	3,265	
Total		4,020
Archer County		
Empire Gas & Fuel Co.	570	
Gulf Production Co.	3,245	
Humble Oil & Refining Co.	740	
Magnolia Petroleum Co.	700	
Panhandle Refining Co.	300	
Prairie Oil & Gas Co.	1,060	
Sun Oil Co.	175	
The Texas Co.	2,765	
Texhoma Oil & Refining Co.	2,405	
Miscellaneous	25,280	
Total		37,240
Petrolia		
Gulf Production Co.	180	
The Texas Co.	60	
Miscellaneous	275	
Total		515
Stephens County		
Empire Gas & Fuel Co.	80	
Gulf Production Co.	1,332	
Humble Oil & Refining Co.	820	
Mid-Kansas Oil & Gas Co.	1,630	
Magnolia Petroleum Co.	545	
Prairie Oil & Gas Co.	865	
Sinclair Oil & Gas Co.	110	
Sun Oil Co.	270	
The Texas Co.	1,590	
Texas Pacific Coal & Oil Co.	1,135	
Miscellaneous	8,975	
Total		17,352
Ranger		
Gulf Production Co.	325	
Humble Oil & Refining Co.	50	
Magnolia Petroleum Co.	605	
Mid-Kansas Oil & Gas Co.	230	
Panhandle Refining Co.	310	
Prairie Oil & Gas Co.	515	
Sinclair Oil & Gas Co.	385	
The Texas Co.	200	
T. & P. Coal & Oil Co.	990	
Miscellaneous	3,030	
Total		6,640
Moran		
Empire Gas & Fuel Co.	50	
The Texas Co.	120	
Texhoma Oil & Refining Co.	120	
Miscellaneous	2,445	
Total		2,735
Young County		
Gulf Production Co.	415	
Humble Oil & Refining Co.	635	
Mid-Kansas Oil & Gas Co.	30	
Prairie Oil & Gas Co.	10	
Panhandle Refining Co.	450	
Sinclair Oil & Gas Co.	420	
The Texas Co.	2,340	
Texhoma Oil & Refining Co.	390	
Miscellaneous	6,900	
Total		11,640
Eastland-Comanche		
Humble Oil & Refining Co.	205	
Magnolia Petroleum Co.	1,075	
Mid-Kansas Oil & Gas Co.	230	
Prairie Oil & Gas Co.	130	
Sinclair Oil & Gas Co.	30	
The Texas Co.	170	
T. P. Coal & Oil Co.	140	
Miscellaneous	1,844	
Total		3,824
Miscellaneous Pools		
Wilbarger County	7,570	
Montague County	140	
Jack County	30	
Palo Pinto County	597	
Brown County	1,725	
Coleman County	65	
Callahan County	4,280	
Mitchell County	1,690	
Reagan County	22,795	
Scurry County	55	
Carson County	3,090	
Hutchinson County	730	
Wheeler County	70	
Gray County	55	
Total		43,902
Total this week		157,802
Ttotal last week		157,325
Gain		477

Completions
Wichita County

Bonchil Co.'s No. 7 Beach, dry at 1,270 feet; Grayce Oil Co.'s No. 11 Daniel, 15 bbls. at 1,330 feet; Magnolia Petroleum Co.'s No. 1 Weeth, 25 bbls. at 1,648 feet; No. 110 Reilly, 12 bbls. at 1,612 feet; Dale Oil Corp.'s No. 6 Jennings, 78 bbls. at 1,590 feet; Gulf Production Co.'s No. 31-A Burnett, dry at 1,962 feet; Riggs and others' No. 1 Burnett, 30 bbls. at 1,585 feet; Magnolia Petroleum Co.'s No. 7 Burnett, dry at 2,152 feet; Stidham and others' No. 3 Daume, dry at 1,850 feet; Texhoma & Collum's No. 3-B Burnett, 65 bbls. at 1,820 feet; Texhoma Oil & Refining Co.'s No. 4-B Burnett, 110 bbls. at 1,822 feet; No. 8 Burnett, dry at 1,945 feet.

Wilbarger County

Barkley and others' No. 2 Stephens, 125 bbls. at 1,822 feet; Humble Oil & Refining Co.'s No. 14 Castlebury, 145 bbls. at 1,307 feet; No. 15 Castlebury, 200 bbls. at 1,307 feet; No. 3 Stephens, 140 bbls. at 2,080 feet; No. 16 Stephens, 140 bbls. at 1,328 feet; No. 17 Stephens, 120 bbls. at 1,410 feet; McCamey and others' No. 19 Stephens, 40 bbls. at 1,307 feet; Priddy and others' No. 7 Castlebury, 80 bbls. at 1,311 feet; Upham Co.'s No. 1 Waggoner, dry at 500 feet; Winnipeg Oil Co.'s No. 7 Bard, 350 bbls. at 2,300 feet; Gulf Production Co.'s No. 1 U. Waggoner, 32 bbls. at 1,442 feet.

Archer County

Atlantic Oil Producing Co.'s No. 7-A Parrish, 75 bbls. at 1,566 feet; Dale Oil Corp.'s No. 11 Wilmot, 35 bbls. at 1,400 feet; Humble Oil & Refining Co.'s No. 1 A. Parkey, dry at 1,853 feet; Jetter and others' No. 3 White, 60 bbls. oil and 30 bbls. water at 1,597 feet; Waite Phillips' No. 1 Woodrun, dry at 1,904 feet; Texhoma Oil & Refining Co.'s No. 6-Wilson, 45 bbls. at 1,410 feet; No. 4 E. Wilson, 40 bbls. at 1,583 feet; Thomas and others' No. 1 Parmenter, dry at 1,906 feet; Continental Oil Co.'s No. 11 Harmel, 15 bbls. at 1,248 feet; Davis Hart Co.'s No. 7 Roach & Junker, 15 bbls. at 1,238 feet; Gilliland and others' No. 5 Rogers, 15 bbls. oil and 10 bbls. water at 1,283 feet; Gulf Production Co.'s No. 7 Rogers, 35 bbls. at 1,309 feet; Harvey and others' No. 3 Kunkel, 30 bbls. at 1,157 feet; Magnolia Petroleum Co.'s No. 1 Rogers, 53 bbls. at 1,335 feet; No. 7 Stampfli, 165 bbls. at 1,347 feet; Mid-Kansas Oil & Gas Co.'s No. 1 Lowe, dry at 1,406 feet; Murchison and others' No. 6 Echols, 130 bbls. at 1,334 feet; Prairie Oil & Gas

(Continued on Page 153)

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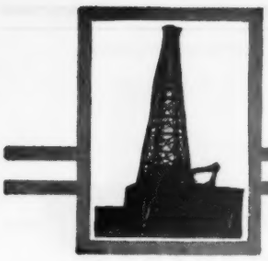

Southwest Texas Fields

By Staff Correspondent

Lockhart Field producing about 5,400 bbls. daily from 24 wells, with 80 drilling, mostly inside tests and probable producers. Three sulphur water wells completed in the Edwards lime. Humble to start development in Bexar County. Mirando Field shipments establish new record in April.

SAN ANTONIO, Tex., May 11.—Lockhart Field with 24 completions was producing about 5,400 bbls. daily by the middle of the past week when the last check was made, or an average of 225 bbls. per well. However, the figures give but little on which to base future expectations. There are 80 drilling wells, all but a few of which are inside tests and most of which should be producers.

Three sulphur water wells were completed in the Edwards lime on the north edge of the Lockhart Field the past week. Grayburg Oil Co. No. 1 Beaty, which got only 10 feet of Serpentine with not enough oil for a commercial well drilled to 1,860 feet, where it encountered the Edwards and sulphur water. Gulf Production Co.'s No. 1 F. A. Gomillion got sulphur water at 2,020 feet and Cranfil & Reynolds-Marland Oil Co.'s No. 4 F. A. Gomillion went into the water at about the same depth as the Gulf.

Gulf geologists who first worked out the structure traced a fault line running through the field and these three wells, nearly in a line, are on the north and west of this fault and, according to some, may prove the existence of the fault and they do not, in that event, necessarily condemn the Edwards lime on the south and east of the fault. Both the Gulf and Cranfil & Reynolds-Marland wells had production in the Serpentine and may be plugged back to that sand.

It seems probable that Randolph and others on the Brownlee lease, of the Beaty tract and 3,000 feet south of the nearest productio,n has a well. The casing is collapsed. It is in the Serpentine with some oil, estimated at various amounts. It will be a few days before the well is a certainty.

New Domain Oil & Gas Co. is rigging up to drill on the Eppright tract, considerably north of proven territory.

Completions during the past week include Gulf Production Co.'s No. 2 F. A. Gomillion, with initial flow of 104 bbls. by heads; Mills Bennett's No. 2 Brewer, initial production 500 bbls.; Cranfil & Reynolds-Marland's No. 5 F. A. Gomillion 800 bbls.; Witherspoon's No. 5 Brewer, initial production 320 bbls.

Production of the field by companies and leases up to the middle of the past week was as follows:

	Bbls.
Gulf Production Co., Beaty lease	395
Gulf Production Co., Gomillion lease	105
Humble, Brewer lease	500
Marland-Cranfil, Gomillion lease	735
Marland-Lucey, Palmer lease	165
Mid-Kansas, Brewer lease	875
Mills Bennett, Brewer lease	580
Quaker Oil Co., Palmer lease	100
Sun Oil Co., Gomillion lease	1,900
Total	5,355

Drilling Operations

Drilling operations in the field are as follows:

Armstrong-Hickman's No. 1 Riddle, 1 mile south of production, is drilling at 1,315 feet in shale; Armstrong's No. 1 Smith, location made, 3 miles southwest fo field. C. M. Cope-Mulchy and others' No. 1 Beaty setting casing at 1,130 feet, one-half mile south of field; Randolph and others' No. 1 Beaty, a little north of Cope, in Serpentine and with showing of oil at 1,335; Glasscock's No. 1 Brewer, derrick up.

Gulf Production Co.'s No. 5 Beaty is at 1,257 feet in broken gumbo and sticky shale; No. 2 Brewer, drilling at 1,719 feet; No. 1 Brewer 56-acre tract, drilling at 650 feet; No. 2 Brewer 56-acre tract, bailing at 1,512 feet; No. 3, same tract, rigging up; No. 1 F. A. Gomillion, drilling at 1,900 feet in lime rock; No. 2 Gomillion, completed initial production 104 bbls.; No. 3 Gomillion, drilling at 1,296 feet in hard shale; No. 4 Gomillion, at 1,216 feet in sticky shale; No. 5 Gomillion at 689 feet, drilling in shale and boulders.

Sun Oil Co.'s Nos. 1, 2 and 3 A. H. Gomillion are producing total of 1,900 bbls.; No. 4 swabbing at 1,555 feet, No. 5 at 1,447 feet with bailer lost in hole and will sidetrack; No. 6 at 1,345 feet with 1,000 feet of oil in hole; No. 7 drilling at 900 feet; No. 8 at 488 feet; No. 9 at 585 feet; No. 10 at 1,725 feet; No. 11 testing at 1,200 feet; No. 12 drilling at 925 feet; No. 13 drilling at 1,071 feet; No. 14 bailing at 1,481 feet; No. 15 drilling at 496 feet; No. 16 drilling at 826 feet; No. 17 a derrick.

Humble Oil & Refining Co.'s Nos. 2, 3 and 5 M. L. Brewer are producers; No. 1 drilling in at 1,285; No. 4 drilling in at 1,373 feet; No. 6 drilling in chalk at 1,261 feet; No. 7 a derrick; No. 8 drilling at 832; No. 9 setting casing at 1,225 feet and putting on control head; No. 10 drilling at 175 feet; No. 11 drilling at 110 feet; No. 12 drilling at 925 feet; No. 13 drilling at 225 feet; No. 14 a derrick; Nos. 1-A, 2-A, 3-A and 4-A rigging up; No. 1 H. F. Brewer drilling at 333 in shale; No. 2 H. F. Brewer drilling at 1,110 feet in shale; No. 3 H. F. Brewer a derrick.

Jake Jarmon's No. 1 Watkins is drilling at 1,310 feet; Kampman & Golding's No. 1 G. E. Palmer twisted off drill stem at 1,200 feet and is fishing; Mills Bennett's Nos. 1 and 2 M. L. Brewer are producers; No. 3 at 1,120 feet is shut down in shale with water; No. 4 is a derrick. Cranfil & Reynolds-Marland Oil Co.'s No. 1 F. A. Gomillion, completed as a 2,000-bbl. well at 1,420 feet, is being agitated; No. 2 is drilling in gumbo and sticky shale at 1,691 feet. It set casing at 1,256 feet. No. 3 is drilling at 1,360 feet; No. 4 drilling in Georgetown lime at 1,960 feet; No. 5 flowing 800 bbls. initial production.

Walsh-Marland Oil Co.'s No. 1 Eppright is shut down at 100 feet; E. L. Smith-Marland No. 1 E. T. Lackey, drilling at 375 feet; Lucey-Marland's No. 1 Palmer, a producer at 1,460 feet; No. 2 Palmer drilling in shale at 1,125 feet; No. 3 Palmer a derrick. Cranfil & Jones-Marland's No. 1 Tabor is a derrick. Marland's No. 1 on F. A. Gomillion tract No. 2, is a derrick.

Mid-Kansas Oil & Gas Co.'s No. 1 M. L. Brewer, a producer at 1,257 feet; Nos. 2 and 4 producers; No. 3 a dry hole; No. 5 drilling at 500 feet; No. 6 running casing at 1,140 feet.

Quaker Oil Co.'s No. 1 Palmer is a producer; No. 2 Palmer rigging up. Quaker Oil Co. has bought the Cardwell 14-acre lease of Mike Danley with a dry hole and will go back and endeavor to make a producer.

Witherspoon Oil Co.'s No. 1 Brewer, the discovery well of the field, is pumping 50 bbls.; No. 2 pumping the same. No. 5, completed the past week, initial production 320 bbls.; No. 3 setting casing at 1,132 feet; No. 4 a derrick; No. 6 drilling at 200 feet and No. 7 is a location.

Grayburg Oil Co.'s No. 1 F. A. Gomillion (formerly United North & South's) producing under agitation at 1,737 feet; No. 2 rigging up; No. 3 derrick; No. 4 location.

Brashaer and others on the Austin Nix tract, 1 mile north of the field, has erected a derrick and will start drilling in a few days. Commodore Oil Co. has spudded in No. 1 Z. Hart, some distance from production and Flynn Brothers are rigging up on No. 1 W. Carter, nearly 2 miles northwest of production.

Operators are not making completions as rapidly as was anticipated, the varying depths at which production is obtained making the completion of a well require more than ordinary care.

Three Rivers District

Plateau Oil Co. and Texas Pacific Coal & Oil Co., operating jointly in the gas field they discovered along the San Patricio-Live Oak County line, are setting casing in No. 1 D. B. Miller at 2,610 feet, believing they have found a second gas sand, the first sand in the completed producers being at 2,400 feet. No. 1 D. B. Miller is 1 mile west of the two producers. They are moving a second rig into the field and will make an additional location at once.

Glassco & Fallin have spudded in No. 1 Jack Jacobs, 1 mile northwest of Three Rivers, an offset on the north of their No. 1 Charles R. Tips, a gasser at 900 feet and are rigging up No. 2 Tips, an offset on the south. George B. Pickett is drilling in Nelson No. 3.

DeLange, Miser & Co.'s No. 2 C. T. Tom in southeastern Atascosa is bailing after plugging off to test gas sands from 3,780 to 3,886 feet, which looks like a water well.

Rio Bravo Oil Co.'s No. 1 Cortinas in northwestern Atascosa, a few miles south of the Somerset oil field, is drilling in the Austin chalk at 3,335 feet, having topped the chalk at 3,036 feet.

Humble Starts Development

Humble Oil & Refining Co., which has a big block of 30,000 to 40,000 acres in Bexar County south and east of San Antonio, has started to explore the tract and is rigging up on No. 1 Charlotte N. Cassin just west of the old Alta Vista shallow field. Humble is moving in two rigs and the location is being selected for another. Humble's block is stretched over about 15 miles of territory and adjoins the city limits of San Antonio on the southeast and it is understood several tests will be drilled.

Good Oil Co.-Dixie Oil Co.'s No. 1 W. L. McClannahan and others' No. 1 Thompson, in eastern Bexar, is drilling at 500 feet. R. L. Raborn has resumed drilling at 1,500 feet in No. 1 Englemann at Selma in northeastern Bexar.

L. B. Ivey has taken over the Walker lease 2 miles south of the Luling Field in Caldwell County, which is standing at 2,468 feet and has been for two years. It was drilled to that depth by S. E. J. Cox and had a showing of high gravity oil of about 38 gravity compared with 28 gravity in the Luling Field. Rig is being moved in the hope of making a well.

(Continued on Page 134)

News of Mexican Fields

By George Blardone

TAMPICO, Mexico, May 8.—With 21 wells completed during the week, 6 can be placed in the production column, with new potential production of only 4,655 bbls., leaving 15 failures for the discard. The only well of any apparent worth in the six pay completions noted is Leonard-Nelson No. 2-A, Lot 11 Corcovada, in the northern fields, which came in at the shallow depth of 1,670 feet, rated good for 4,000 bbls. This well is a companion to the same combination's No. 1, Lot 11, which is the only producer of worth actually producing from the Corcovado district at this time. No. 1 is holding steady around 7,000 bbls. a day. Its finishing depth was 1,995 feet.

The other pay completions in the northern fields follow: International Petroleum Co.'s No. 170, Lot 5 Cacalilao, is rated at 300 bbls. at 2,260 feet. East Coast Oil Co.'s No. 20 Laguna de la Milpa is a 25-bbl. well at 2,180 feet; Kern Mex Oil Co.'s No. 10 El Barco is a 30-bbl. well at 2,350 feet; and Mexican Gulf Oil Co.'s No. 70 El Barco is rated 50 bbls. at 2,004 feet.

In the south fields, Mexican Eagle Oil Co.'s No. 174 Lot 5 Cacalilao is a dry good for 250 bbls. at a sub-sea level of 1,796 feet.

The Failures

In the northern fields the failures follow: La Corona Petroleum Co.'s No. 170, Lot 4, Cacalilao, drilled into salt water at 2,424 feet, and No. 96 Ojital, in the old Panuco district, did the same at 1,925 feet. International Petroleum Co.'s No. 174, Lot 5, Cacalilao, is a dry hole at 2,352 feet, and No. 184, Lot 3, same sector, is also a duster at 1,900 feet. Mexican Petroleum Co.'s No. 21, Lot 1, Cacalilao, drilled into salt water at 2,300 feet. New England Fuel Oil Co.'s No. 10, Lot 3, same sector, is a failure at 2,385 feet. Transcontinental Petroleum Co.'s No. 165, Lot 4 Cacalilao is a duster at 2,275 feet; No. 176, same, drilled into salt water at 2,070 feet, and No. 178, same, is also a salt water well at 2,075 feet. Cosmos Oil Co.'s No. 8, Lot G Corcovado, finished a duster at 2,330 feet. La Corona Petroleum Co.'s No. 8, Lot 6 Corcovado, is a salt water well at 2,890 feet. Mexican Gulf Oil Co.'s No. 24, Lot 4, same sector, is a dry hole at 2,400 feet. Credito Petrolero, No. 15, Lot 10 Paciencia de Aguacate, in the Topila sector, may make a little oil at 2,348 feet. Morrison and others No. 14 Tortuga, where asphalt bridges have given trouble for a long time, has been abandoned at 2,300 feet, the original depth of hole. This leaves only one test drilling in the Tortuga, which will be completed in a few days.

In the south fields, Island Oil & Transport Corp.'s No. 4, Lot 135 Chinampa drilled into salt water at 2,012 feet.

April Completions

There were 75 wells completed in Mexican fields during the month of April, of which 22 can be placed in the production column, many being quite small. Of the producers completed 19 can be placed to the credit of the northern fields and 3 to the credit of the south fields. The new net production of these completions credits the northern fields with 31,040 bbls. and the south fields with 1,450 bbls., a number of the completions that came in during the month being pinched down to maintain pressure as the month ended, or in two instances going to salt water altogether ere the month ended, hence the term "net" as applied to the new production secured during the month.

Actual daily production during April can be placed at about a general average

(Continued on Page 132)

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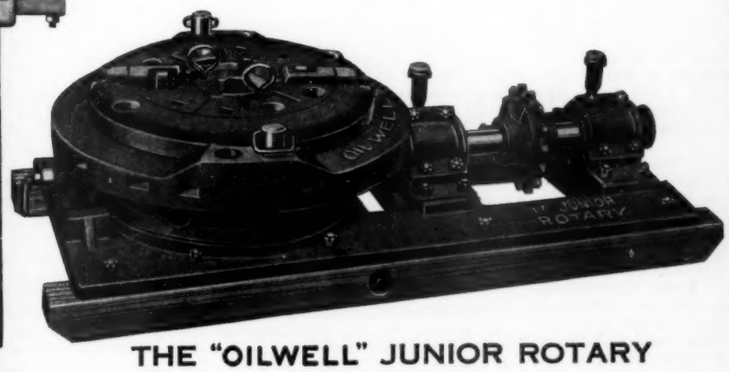

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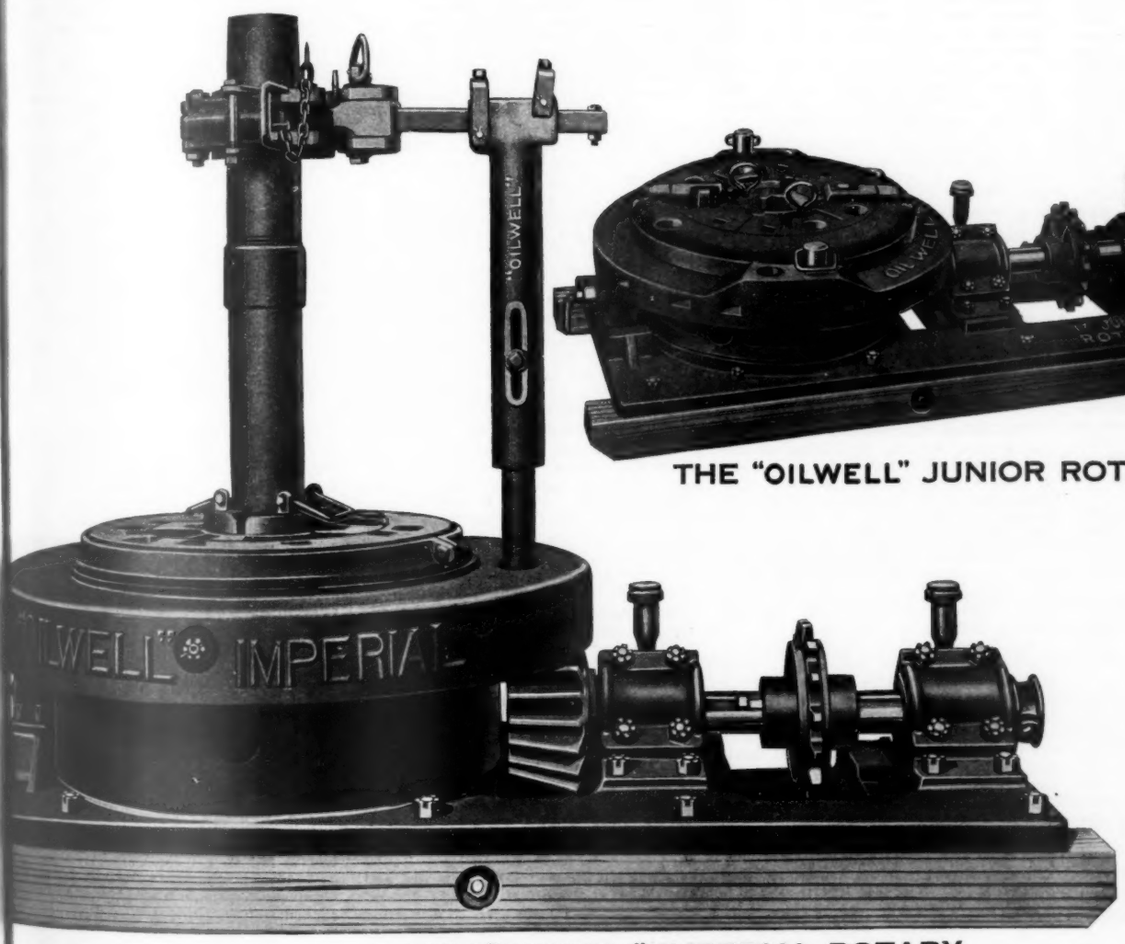

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Oklahoma Field Operations

By J. L. Dwyer

Gypsy Oil Co.'s well near Holdenville producing 1,200 bbls. daily. Comar Oil Co. completes well in Donahoe Pool making 55 bbls. hourly. Thirty-two tests drilling for deep sand at Garber. Few developments at Cromwell, with completions confined to inside locations. Several tests due in sand in Yeager Pool.

The field news of Oklahoma for last week was scattered. At Holdenville, the new well of the Gypsy Oil Co. came to the front and is producing 1,200 bbls. per day at a total depth of 3,286 feet. It is reported that it is being drilled deeper. West of the Gypsy well, the Prairie Oil & Gas Co. has a well that is somewhat of a disappointment, as geologists figure that the sand should have been topped at about 3,235 feet. This well, No. 1 NE cor. SE NE Section 34-8-8, topped the sand at 3,263 feet, and at 3,267 feet it is making 250,000 feet of gas and no oil. The boiler is being moved back and the well will be deepened. According to elevation, and not figuring on the west dip which is supposed to be pronounced in this locality, the sand was topped 4 feet low. This fact would make the territory in other directions look more promising than acreage to the west.

The best well in the Donahoe Pool was completed by the Comar Oil Co. in No. 1 Choteau, NW cor. SE SE Section 22-23-4. This is a quarter-mile southeast of the discovery well of the pool. Sand in the Comar well was 3,723-24 feet, and the well did 82 bbls. the first hour and 72 bbls. the next 2 hours, and then increased to 55 bbls. per hour. There is one producing well beside the new well, and two dry hole offsets to the discovery well. There are 13 wells drilling in the vicinity.

At Yeager, there are several wells due, one of which should have been completed this week. The coming week should do much to determine the history of this field.

At Garber, owning to the splendid holding up of the Sinclair Oil & Gas Co.'s No. 25 Belveal, there are 32 deep tests under way. It will be at least 60 days before any of them reach the sand.

At Cromwell, there were few developments during the past week, and the completions were principally confined to inside locations. In the north extension of the field, the Jackson lease of the Gypsy Oil Co. still continued to put the oil out in nice figures, and is undoubtedly the best lease of this end of the pool.

Other Developments

At Tonkawa, the well of Louis Freedman, SE cor. NE Section 28-25-1w, has reached a total depth of 4,282 feet with little to encourage the owners. It is shut down with 3,000 feet of oil in the hole, and is not flowing. Top of sand was 4,248 feet, lime at 4,256 feet, and back to sand again at 4,280 feet.

A deep failure was completed by the Day Oil Co. in Section 8-26-2, where a hole full of water was struck at 5,022-25 feet.

In the Thomas Pool, the Marland Oil Co.'s No. 2 Thomas, SE cor. SW SW Section 15-25-2w, is the first Wilcox well in the pool. It had sand 3,955-86 feet with a break 3,976-80 feet, and it is good for 441 bbls. Previous production in this pool was from the 2,500-foot horizon.

North of Tonkawa, the Mid-Continent Petroleum Co.-Marland Oil Co.'s No. 3-A school lands, SE cor. SE NE Section 33-25-1w, has a total depth of 4,296 feet, and is producing 1,565 bbls. daily.

The Riverland Pool was in the news with an offset to the discovery well which was drilled some time ago by the Riverland Oil Co. The new well is the northeast offset and was drilled by Baker & Lynch of Tulsa. It had sand 2,250-73 feet and produced 750 bbls. daily. It is in the SW cor. Section 26-19-11. The discovery well had a slightly greater production than the new well, and it has maintained a good flow during the five weeks it has been in.

In the Bristow district, the Carter Oil Co. and Frank Billingslea have a hole full of water in the NW cor. SE Section 22-14-9. Sand was 3,750-60 feet.

At Davenport, the Magnolia Petroleum Co. completed the offset to the discovery well in No. 1, NW cor. NE Section 3-14-5. Sand was 3,404-55 feet and the well is doing 625 bbls. daily. It is a direct south offset to the discovery well, which was drilled by the Magnolia Co. last winter. An unusual occurrence was recorded in the Davenport Field, when the Prairie Oil & Gas Co.'s No. 2, SE cor. SW Section 3-14-15, topped sand at 3,385-456 feet and the well started making 3,000,000 feet of gas. The hole filled 1,200 feet with oil which drowned out the gas but the well failed to flow.

Okmulgee District

The Enfisco Oil Co.'s No. 1, CWL SW NE Section 3-15-11, is drilling at 350 feet. Sam Bright has a rig up for No. 1, CSL NW SW Section 26-15-12. The Kingwood Oil Co. and Henry Oil Co. are drilling at 500 feet in No. 1, SE cor. SW SE Section 30-14-12.

F. D. Misener is drilling at 1,426 feet in No. 5, SW cor. NW Section 11-15-14. The Magnolia Petroleum Co. has a rig on the ground for No. 3, SW cor. SE Section 11-14-14.

The Mountain Fork Oil Co. and Clark have a failure in No. 2-A, SE cor. NW SW Section 28-13-11. Total depth is 3,263 feet. The Prairie Oil & Gas Co. is drilling at 2,415 feet in No. 8, NE cor. SE NW Section 25-13-11. This is an old well drilled deeper, old total depth is 2,387 feet. John Brock, Jr. and others are drilling up underreamer lugs at 2,580 feet in No. 9, CEL NE SW Section 32-13-11. Last week Brock's No. 10 was erroneously reported in this column. It should be changed to No. 9, an old well drilling deeper. John Brock Jr. and others' No. 3, CEL NE SW Section 11-13-12, has 2,000,000 feet of gas from sand 1,650-1,740 feet, with a show of oil and water. It is being drilled ahead. Vierson & Kessler have a rig on the ground for No. 2, SE cor. SW NE Section 32-13-12.

The Josey Oil Co.'s No. 6, SW cor. NW Section 33-12-11, an old well drilled deeper had pay sand 2,910-12 feet and made 45 bbls. per hour. Old total depth is 2,765 feet, and the well may be deepened.

The Sterling Oil Co. is rigging up to drill an old well deeper in No. 1, SE cor. NE NE Section 30-12-14. Old total depth is 2,832 feet.

T. A. Johnston's No. 1, NE cor. NW Section 3-15-12, is dry and abandoned at 2,670 feet. T. C. Miller and others' No. 1, NW cor. NW Section 4-15-12, is dry and abandoned at 2,702 feet. Volentine and others' No. 2, SE cor. NW NE Section 26-15-13, is dry and abandoned at 2,000 feet. Misener's No. 10, S half NE SE Section 28-15-14, is dry and abandoned at 880 feet. Smith and others' No. 5, NW cor. NE NE Section 23-14-14, is shut in with a 250,000 feet of gas from sand 525-600 feet. Hutchinson and others' No. 2, NW cor. SE NW Section 35-15-16, is dry and abandoned at 1,890 feet.

Other Okmulgee Completions

The Riverland Oil Co.'s No. 9 Marshall, SE cor. NE SE Section 8-16-12, had oil 2,002-20 feet and is good for 140 bbls. naturally. Thompson & Black's No. 2 Vann, C NE NW Section 10-16-12, had oil 1,360-1,435 feet, was shot with 100 quarts and is good for 50 bbls.

The Sheldon Oil Co. has a rig up for No. 2, CSL NE NW SW Section 20-16-12. The Hope Petroleum Co.'s No. 1, NW cor. SE SE Section 28-16-12, is dry and abandoned at 2,324 feet. Meadows & O'Brien have a rig up for No. 3 Morey, SW cor. SE NE Section 34-16-12. Sheldon & Turner have completed No. 4, NE cor. NW Section 34-16-12, in sand 2,170-2,200 feet. The well made 200 bbls. naturally at first, but is now pumping 15 bbls. The Sheldon Oil Co. and Superior Oil Corp. have completed No. 5, NW cor. NE NW Section 34-16-12. Sand was 2,152-87 feet and the well is making 7,000,000 feet of gas and 85 bbls. of oil naturally.

West of Beggs, the Shaffer Oil & Refining Co.'s No. 4, NE cor. SW SE Section 17-15-11, had sand 2,019-28 feet with a 200-bbl. show. It will be shot. The Eastern Oil Co.'s No. 1 Jefferson, SE cor. NW NE Section 32-15-11, is drilling at 2,200 feet. The Eastern Oil Co.'s No. 2 Jefferson, SW cor. NW NE Section 32-15-11, is drilling at 650 feet.

The Olean Petroleum Co.'s No. 2, SE cor. SE NW Section 14-15-12, had sand 2,120-58 feet with 3,000,000 feet of gas. It is drilling at 2,184 feet. Near Bald Hill the Papoose Oil Co. and Swindler's No. 1, NE cor. SE SE Section 21-15-14, is making 600 bbls. daily from sand 2,178-84 feet. It is an old well drilled deeper.

West of Okmulgee, Dalton & Baker have spudded No. 1 Hill, NE cor. NW Section 28-13-8.

The Prairie Oil & Gas Co.'s No. 10, SE cor. NW Section 25-13-11, made 75 bbls. in sand 2,438-51 feet. The Barbara Oil Co. and C. L. McMahon's No. 1, NW cor. SE NE Section 2-13-12, is dry and abandoned at 2,836 feet. King & Evans' No. 1 Aggas, SE cor. NE NE Section 5-13-12, is spudded. The Penmar Oil Co.'s No. 2 Perryman, NW cor. SW SE Section 11-13-12, is drilling at 358 feet.

The G. M. Oil Co.'s No. 1 Deer, C S half SE SE Section 34-12-11, is spudded. The Mid-Continent Petroleum Co.'s No. 7 Gray, SW cor. NE Section 12-13-13, is dry and abandoned at 2,436 feet. It is an old well drilled deeper.

Near Eram, C. E. Campbell's No. 4 Simpson, NW cor. SW NW Section 30-13-15, is dry and abandoned at 2,025 feet

C. F. Noble has a dry hole in No. 1, NE cor. SW NE Section 19-15-12. Total depth is 1,699 feet. The Pulaski Oil Co.'s No. 7 Bruner, has the Wilcox sand at 2,820-53 feet, but is not completed.

The Barbara Oil Co. has a rig up for No. 2 Fields, CWL SE NE Section 3-11-11. The Windsor Oil Co. has completed No. 2, SE cor. NE SW Section 22-11-11. Sand was 2,482-2,503 feet, and the well is good for 375 bbls. natural. The Windsor Oil Co. has completed No. 1, SE cor. NW Section 22-11-11, for 420 bbls. natural from sand 2,629-35 feet.

Cromwell Pool

The Sinclair Oil & Gas Co.-Houston Oil Co.'s No. 3 Hill, NW cor. SW SW Section 34-11-8, is completed. Sand was 3,373-3,430 feet and the well was plugged back to 3,423 feet. It is good for 1,500 bbls. naturally. The same companies' No. 6 Hill, NE cor. SW SW Section 34-11-8, is good for 1,420 bbls. in sand 3,366-3,416 feet, plugged back to 3,403 feet.

The Roxana Petroleum Corp.'s No. 1 Brown, SW cor. SW Section 2-10-8, is drilling at 650 feet. The Carter Oil Co. has completed No. 11 Dunn, SE cor. NW NW Section 3-10-8. Sand was 3,348-90 feet, and the well made 808 bbls. naturally. It was shot with 30 quarts and is making 1,000 bbls. Number 16 Dunn, NE cor. NW Section 3-10-8, is drilling at 1,260 feet. The Nowata Oil & Refining Co. is building the rig for No. 2, NW cor. NE Section 3-10-8. The Prairie Oil & Gas Co. is drilling at 910 feet in No. 4 Hill, SE cor. NE Section 3-10-8.

The Sinclair Oil & Gas Co.'s No. 1-A, SE cor. NE SE Section 5-10-8, is completed. Sand was 3,405-3,451 feet, total depth 3,452 feet. The well made 300 bbls. naturally and was shot with 7 quarts without any increase. The Sinclair Oil & Gas Co.'s No. 4, NW cor. NE SE Section 5-10-8, is drilling at 375 feet. The White Eagle Oil & Refining Co.'s No. 2, NW cor. NE SW Section 14-10-8, is drilling at 240 feet.

The Carter Oil Co.-Gardner Petroleum Co.'s No. 1, SW cor. SE Section 27-11-8, is drilling at 500 feet. The Continental Oil Co. is rigging up No. 1, SE cor. SW Section 28-11-8. The Sinclair Oil & Gas Co. and Houston Oil Co. are rigging up No. 4, SW cor. SE Section 28-11-8. Waite Phillips Co. and others' No. 1, SW cor. SE NE Section 28-11-8, is drilling at 700 feet. Waite Phillips Co. is rigging up No. 1, SE cor. NW SW Section 28-11-8. The Prairie Oil & Gas Co. is drilling at 500 feet in No. 3, SE cor. NE SE Section 32-11-8, and at 400 feet in No. 4 NE cor. SE SE Section 32-11-8.

The Mutual Oil Co. has completed No. 4, NW cor. SW SE Section 33-11-8. Sand was 3,273-3,375 feet, total depth 3,402 feet. The well had 6,000,000 feet of gas and 50 bbls. oil after a shot of 30 quarts. The Mutual Oil Co.'s No. 7, SE cor. NW SE Section 33-11-8, is completed in sand 3,311-96 feet. It has 4,000,000 feet of gas and 300 bbls. of oil naturally.

The Sinclair Oil & Gas Co.-Houston Oil Co. are rigging up No. 3 Hill, NW cor. NE Section 33-11-8. The Sinclair Oil & Gas Co.'s No. 4, NE cor. SE SE Section 33-11-8, is completed. Sand was 3,357-3,407 feet, water at 3,382 feet. It was plugged back to 3,382 feet and is good for 10 bbls. naturally. The same companies' No. 7, SW cor. NE SE Section 33-11-8, is good for 600 bbls. in sand 3,320-80 feet. The Waite Phillips Co.-Mid-Continent Petroleum Co. are drilling at 1,204 feet in No. 8, SW cor. NE SW Section 33-11-8.

The McMann Oil Co. is drilling at 400 feet in No. 5, SE cor. NE NW Section 34-11-8. The Sinclair Oil & Gas Co. and Gardner Petroleum Co. have completed a good well in No. 4 Hill, NW cor. SW Section 34-11-8. Sand was 3,377-3,414 feet and the well was good for 750 bbls. naturally. The Sinclair Oil & Gas Co. has completed No. 1 Jackson, SW cor. NW Section 34-11-8. Sand was 3,404-3,431 feet and the well made 742 bbls. natural. It was shot with 5 quarts when the production dropped to 500 bbls., and the shot resulted in a small increase. Sinclair Oil & Gas Co.'s No. 2 Jackson, NW cor. SW NW Section 34-11-8, is drilling at 450 feet.

Papoose Pool

Mid-Continent Petroleum Co. and others' have a rig on the ground for No. 2, NE cor. NW SW Section 16-10-9. The Texas Co. is drilling at 700 feet in No. 1 NE cor. SW SE Section 16-10-9. The Arkansas Fuel Co.'s No. 1-A, SE cor. SW SW Section 33-10-9, is drilling at 300 feet. This is a twin well. The Carter Oil Co.'s No. 7, NE cor. SE SE Section 33-10-9, had the pay 3,291-300 feet, with a break to 3,311 feet, then pay

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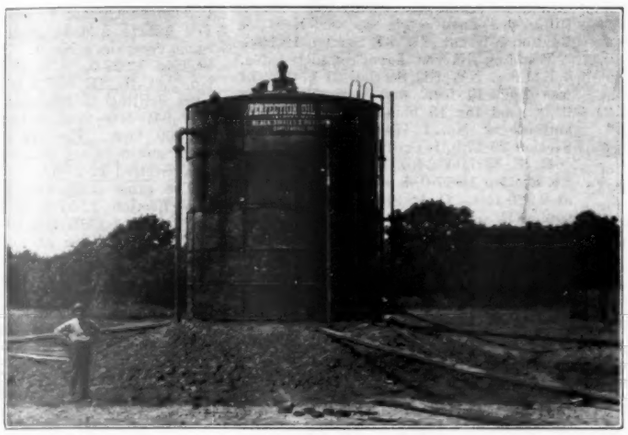

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3,311-33 feet. The well is making 250 bbls. naturally and may be deepened.

The Carter Oil Co.'s No. 8, NW cor. SE SE Section 33-10-9, had sand 3,305-47 feet and is making 540 bbls. naturally. It may be drilled deeper. The Prairie Oil & Gas Co.'s No. 3-A, SE cor. SW SW Section 34-10-9, has 3,000,000 feet of gas from 3,266-78 feet, break to 3,285 feet, pay 3,285-87 feet with a show of oil. It is drilling at 3,287 feet. The Kingwood Oil Co.'s No. 5 Sands, SE cor. SW SW Section 35-10-9, is dry and abandoned at 3,365 feet.

The Amerada Petroleum Corp.'s No. 1 Dacon, SE cor. SE Section 36-10-9, had 12,000,000 feet of gas from 3,067-72 feet and is drilling at 3,125 feet. The Amerada and Gilcrease companies have a rig on the ground for No. 4, SW cor. SE SW Section 36-10-9, and for No. 5, NE cor. SW SW Section 36-10-9.

East of the Papoose Pool, Burton & Pratt have spudded No. 1, SE cor. NE NE Section 15-10-10. The Carter Oil Co. has built the rig for No. 1, SW cor. NW Section 31-10-10. The Independent Oil & Gas Co.'s No. 1, NW cor. SW SW Section 1-9-9, is drilling at 495 feet. The Skelly Oil Co. has a rig on the ground for No. 2, SE cor. NW SE Section 2-9-9.

The Independent Oil & Gas Co. has completed No. 6, NE cor. SW NE Section 2-9-9. Sand was 3,335-58 feet and the well is good for 480 bbls. naturally. The Independent Oil & Gas Co. has completed No. 7, SW cor. SE NE Section 2-9-9. Sand was 3,314-45 feet, break to 3,347 feet, total depth 3,347 feet. The well is making 1,000 bbls. naturally. The Independent Oil & Gas Co.'s No. 3, SE cor. NE SE Section 2-9-9, is drilling at 530 feet. The Independent Oil & Gas Co. has a rig up for No. 4, SW cor. NE SE Section 2-9-9.

T. B. Slick has completed No. 11, SW cor. SE NW Section 2-9-9. Sand was 3,340-47 feet, water to 3,348 feet. The well was plugged back to 3,347 feet, and is good for 25 bbls. on the pump. T. B. Slick's No. 1-A, NE cor. NW Section 2-9-9, is estimated at 60 bbls. from sand 3,320-46 feet.

The Foster Investment Co.'s No. 1 Wallace, SW cor. SE NE Section 33-10-9, was drilled down to 3,408 feet. The old total depth was 3,398 feet. The well is now making 6,000,000 feet of gas, 40 bbls. oil and 40 bbls. water. It may be drilled deeper.

The Indian Territory Illuminating Oil Co.'s No. 1-A, SW cor. SE SE Section 34-10-9, had sand 3,296-3,329 feet, first oil at 3,315 feet. It made 40 bbls. of oil per hour the first 20 hours and has stopped flowing.

The Phillips Petroleum Co. is building the rig for No. 4, NW cor. SE SE Section 3-9-9. T. B. Slick has a rig up for No. 9, NE cor. SW SE Section 3-9-9. The Skelly Oil Co. and others' No. 2, NE cor. SW NW Section 4-9-9, is dry and abandoned at 3,365 feet. The Transcontinental Oil Co.'s No. 10, NW cor. SE NE Section 4-9-9, is drilling at 200 feet. The Harris-Hays Oil Co. is building the rig for No. 1, SW cor. SE SE Section 13-9-9.

Creek County

The Eastern Oil Co. is underreaming 6-inch casing to drill deeper in No. 8, NE cor. SW SE Section 17-15-8. Old total depth is 3,260 feet. The Texas Co. has a rig up for No. 2, NE cor. SW SW Section 23-15-8. The Phillips Petroleum Co. is cleaning out at 323 feet in No. 2 Cowney, SW cor. SE Section 30-15-18. This is a twin well.

The Prairie Oil & Gas Co. has completed No. 8 Rentie, SE cor. NE SW Section 2-14-8. Sand was 2,441-99 feet, with first oil at 2,464 feet. The well was shot with 50 quarts and is good for 70 bbls. The Texas Co. is spudding No. 1, SW cor. SE Section 12-14-8. C. G. Tibbins is spudding No. 3, SW cor. NW NW Section 13-14-8. The Prairie Oil & Gas Co. is drilling at 225 feet in No. 3, SE cor. NE NE Section 14-14-8.

Corman and others are rigging up to drill an old well deeper in No. 2, SE cor. NE SE Section 5-15-9. L. Coryell and others' No. 1 Winters, CSL SW NW NE Section 30-15-9, had 1,000,000 feet of gas from 1,245-70 feet, and is drilling ahead at 1,320 feet.

The Texas Co.'s No. 3 Harry, SW cor. NE NW Section 27-15-10, had gas 2,615-32 feet, oil 2,635-36 feet, total depth 2,680 feet. It was shot with 40 quarts and is good for 10 bbls. It is being cleaned out. W. J. Harmon's No. 4, CSL NW NE Section 33-15-10, is dry and abandoned at 3,235 feet.

Tom Kelly's No. 1, NW cor. NE SE Section 4-14-10, is dry and abandoned at 3,298 feet. Donnelly, Hall & Noble are drilling at 227 feet in No. 2, NW cor. NE NE Section 19-14-10. The Burke-Greis Oil Co. has completed No. 4, Barnett, C SE NE Section 31-14-10. Sand was 3,427-90 feet, the well was shot with 20 quarts and is good for 45 bbls. The Texas Co. has a rig up for No. 2, SE cor. NW NE Section 9-13-8.

The Gled Oil Co.'s No. 1 Miller, SE cor. NE NE Section 14-19-8, had top of sand 2,127 feet, oil 2,136-63 feet, was shot with 50 quarts and is showing for 50 bbls. J. B. Chronic's No. 1 Williams, SE cor. NE Section 30-19-8, is dry and abandoned at 3,670 feet. It is an old well drilled deeper.

Smith and others' No. 1, SE cor. NE Section 4-17-11, is a new rig. W. R. Cole's No. 1, NE cor. SW NE Section 4-18-11, is dry and abandoned at 2,473 feet. The Regal Oil Co. has completed No. 24 C S half SW Section 6-18-12. Sand 1,598-1,624 feet, shot with 55 quarts and made 25 bbls.

Whitton & Wilcox have completed No. 1, NE cor. SE NW Section 8-18-12, Turkey Mountain, sand was 2,141-2,283 feet, dry; water 2,035-40 feet; gas sand 1,628-1,700 feet; the well was plugged back to the gas sand and shut in.

Hornaday and others have a rig on the ground for No. 1 Smith, SW cor. NE SE Section 25-17-7. Blaumer & Hartley's No. 1 Benson, NW cor. NE NW Section 31-17-7, total depth was 3,754 feet. It was plugged back to a gas sand 2,610-54 feet, and shot with 100 quarts and 30 quarts. It is making 250,000 feet of gas. The Transcontinental Oil Co.'s No. 1 Bishop, SW cor. NW SW Section 13-17-8, is drilling at 450 feet. The Atlantic Oil Producing Co.'s No. 3 Johnson, CSL SW SE Section 14-17-8, had sand 2,220-68 feet, total depth 2,274 feet. It was shot with 80 quarts and is showing for 50 bbls.

The Prairie Oil & Gas Co.'s No. 9 Pittman, SE cor. NW NW Section 5-16-8, had oil 3,488-3,518 feet and is making 125 bbls. naturally. The well is fishing for a lost bit. Skelly Oil Co. and Billingslea have a rig up for No. 1-A Benton, NW cor. SW SE Section 10-16-8.

Wood & Farren have completed No. 3 NE cor. NW SE Section 21-17-9. Oil was 2,509-49 feet, shot with 15 quarts it is good for 15 bbls. Damar Oil Co. and others' No. 1 Ware, NW cor. NE Section 29-17-9, is drilling at 400 feet.

R. T. Wright's No. 1 Guinn, NW cor. SE Section 15-17-0, is dry and abandoned at 2,980 feet. O. P. Stover's No. 1 Dickson, NE cor. SW Section 19-17-10, is dry and abandoned at 3,060 feet.

E. S. Booth, receiver, has a rig up for No. 1 Sango, NE cor. NW Section 7-16-9. C. R. Howard is rigging up No. 5 McNac, SW cor. NE NE Section 16-16-9. The Transcontinental Oil Co.'s No. 16, CEL NE SW Section 27-16-9, is drilling at 370 feet. The Prairie Oil & Gas Co. has a rig on the ground for No. 9 Shoals, SE cor. NE SE Section 33-16-9.

C. L. Sherman and others have completed No. 1-A, SE cor. NE SE Section 19-17-10. Oil was 617-30 feet, total depth 634 feet. The well is good for 25 bbls. after a shot of 20 quarts.

Osage County

Jackson & Wise's No. 2, CEL NE SW Section 14-28-10, is drilling at 260 feet.

The Wiser Oil Co. has completed No. 7, NW cor. SE NW Section 27-29-11. Peru sand was topped at 905 feet, through sand at 952 feet, total depth 957 feet. The well was shot with 160 quarts and made 90 bbls the first 24 hours.

Duffield & Howard have completed No. 3, SE cor. SE Section 28-28-11, in Peru sand 968-1,020 feet, total depth 1,022 feet. It was shot with 110 quarts and is good for 10 bbls. The Wah-Sha-She Oil Co. is moving in a machine for No. 11, CNL NE Section 33-28-11.

Burbank

The Phillips Petroleum Co. has completed No. 14, CNL NE NW NE Section 11-27-5. Sand was 2,970-3,039 feet, and the well filled up 400 feet naturally. It was shot from 2,971-3,039 feet with 170 quarts and is good for 125 bbls. Same company's No. 1, SE cor. SW NW Section 12-27-5, is drilling at 335 feet. No. 2, CSL SE SW NW Section 12-27-5, is drilling at 395 feet; No. 5, CWL NW SW NW Section 12-27-5, is drilling at 300 feet. The rig and tools have been moved in for No. 10, SE cor. NW NW Section 12-27-5.

The same company's No. 1, SW cor. NW Section 12-27-5, is drilling at 975 feet; No. 2, CSL SE SW NW Section 12-27-5, is drilling at 1,150 feet; rig on the ground for No. 3, CSL SW SE NW Section 12-27-5; rig on the ground for No. 5, CWL NW SW NW Section 12-27-5; No. 6, NE cor. SW NW Section 12-27-5, is drilling at 665 feet; rig on the ground for No. 7, NW cor. SE NW Section 12-27-5; No. 9, CWL SW NW NW Section 12-27-5, is drilling at 440 feet; spudded No. 10, SE cor. NW NW Section 12-27-5.

The Carter Oil Co.'s No. 11, CWL SW NW NE Section 13-27-5, is completed. Sand was 2,982-3,026 feet, and the hole filled up 100 feet naturally. The well was shot from 2,986-3,026 feet with 120 quarts and is good for 15 bbls. Same company has completed No. 12, CNL NE NW NE Section 13-27-5; top of sand 2,990 feet, gas 2,995 feet, oil 3,000 feet, bottom sand 3,042 feet, total depth 3,045 feet. The well was shot from 2,997-3,045 feet with 120 quarts and made 500 bbls. the first 24 hours. Number 13, SE cor. NW NE Section 13-27-5, had sand 2,965-3,020 feet, shot 120 quarts; it is making 300 bbls.

The Skelly Oil Co.'s No. 3, SE cor. NE NW Section 2-27-5, is drilling at 450 feet. The Phillips Petroleum Co. has a rig on the ground for No. 1, SW cor. SE Section 2-27-5; its No. 12, CEL SE NE NE Section 18-27-6, has 300 feet of oil in the hole from sand 2,941-76 feet.

Other Osage

Ramsey Oil Co. is moving in a machine for No. 1, SW cor. NE Section 10-27-12. Winona Oil Co.'s No. 1, NE cor. SW Section 18-27-12, is dry and abandoned at 1,845 feet.

Skelton & Moore have completed No. 6, SE cor. NE SW Section 32-26-12. The Bartlesville sand was found 1,559-86 feet, shot with 120 quarts and is good for 15 bbls.

E. B. Lawson's No. 11, CWL NW Section 28-25-8, is dry and abandoned at 2,707 feet. The Texas Co.'s No. 12, CWL NE Section 29-25-8 had the Burgess sand 2,415-25 feet with 500,000 feet of gas, and made 56 bbls. the first 18 hours.

The Tidal-Osage Oil Co. has completed a Bartlesville sand well in No. 7, CNL NE SW NW Section 25-24-8. Sand was 2,112-71 feet, oil at 2,134 feet. The well was shot with 180 quarts and is good for 15 bbls.

The Texas Co. is rigging up for No. 1, NW cor. SW Section 10-25-10, and moving in a machine for No. 3, CNL NE SW Section 22-24-9. C. B. Peters is spudding No. 5, C NE NW Section 22-24-9.

The Pure Oil Co. has a machine in for No. 1, CWL SW SW NW Section 15-24-8. McCuen & Wurmser and others and shut down waiting for a shot in No. 7, CEL SE NE Section 16-24-8. Sand is 520-537 feet. The Tidal-Osage Oil Co. is building the rig for No. 8, NW cor. NE NW Section 25-24-8.

The Texas Co. is spudding No. 3, CNL NE SW Section 22-24-9. The Prairie Oil & Gas Co. is drilling at 350 feet in No. 4, SW cor. NE NW Section 29-24-9. The Peters Petroleum Co. has the material on the ground for No. 5, NE cor. SW SE Section 12-23-8. Twin State

(Continued on Page 158)

Kansas Oil Field News

By J. L. Dwyer

Rainbow Bend continued to be the sensation of the Kansas oil fields last week with the completion of several new wells of the gusher class. This prolific pool, owned by the Waite Phillips Independent Oil & Gas Co.-Marland Oil Co., is now past the production mark of 15,000 bbls. daily. On last Friday the day's gauge was 15,650 bbls. From the increasing size of the wells drilled in, it is possible that the best production is yet to be uncovered. During the past week, the owners completed a dry hole, No. 1 Nelson NE SE Section 19-33-3, which topped sand at 3,243 feet and was declared dry and abandoned at 3,633 feet.

Marland Oil Co.'s No. 4 Bowers, NE cor. SW NW Section 10-33-3, in the Graham Pool, is by far the best well to be completed in that field. It had an initial production of 2,400 bbls. from sand 3,484-92 feet, and it has gradually increased to 140 bbls. an hour without any deeper drilling. It exceeds by a wide margin the initial production of any wells completed at Graham.

At Rainbow Bend, the Waite Phillips Co.-Independent Oil & Gas Co.-Marland Oil Co. have announced three new locations on the Thurlow farm, the SW quarter of Section 17-33-3. They are Nos. 2, 3, and 4, and are all along the south line of the lease. The same companies have announced a new location on the Bates farm, No. 2 NE cor. NE Section 19-33-3.

The Waite Phillips Co.-Independent Oil & Gas Co.-Marland Oil Co.'s No. 2 Beebee, completed since last week's issue, is good for 3,235 bbls. from sand at 3,230-33 feet. It is in the NE cor. NE Section 29-33-3. The same interests' No. 2 Snyder, which was producing but not completed last week, had sand at 3,216-55 feet, and is good for 3,261 bbls. It is the NW cor. SW SW Section 21-33-3.

The latest well to be completed is No. 6 Dora Johnson, SW cor. NE SE Section 20-33-3, which is making 75 bbls. an hour from sand 3,194-242 feet. No. 8 Dora Johnson is ready to drill in.

In Greenwood County, the regular number of new producers swell the production figure a bit. The Teeter Pool is still the scene of considerable activity. A number of failures are recorded in the columns that follow.

Marion County

The Argus Oil Co. is drilling at 2,650 feet in No. 5, NW cor. SW, Section 5-21-4. This is an old well drilled deeper.

Garden and the White Eagle Oil Co.'s No. 1, SW cor. SW, Section 9-21-4 is dry and abandoned at 2,453 feet.

Dengee & Callahan have a rig on the ground for No. 1, NW cor. NW, Section 26-22-4.

Butler County

Vickers and others have completed No. 1, NW cor. NW, Section 2-25-3, for 75 bbls. natural from sand at 2,725-40 feet.

The Skelly Oil Co. has spudded No. 1 Moore, SW cor. SW, Section 12-25-3.

Vickers and the Phillips Petroleum Co. have completed No. 1 King, NE cor. NE NW, Section 17-24-4, in sand at 2,537-39 feet. It made 330 bbls. of oil and 30 bbls. of water the first 24 hours on the pump.

The Marland Oil Co.'s No. 1 Kemper, CSL SE NE, Section 18-24-4 is shut down at 470 feet.

The Ohio Fuel Co. and Crawford's No. 1-A, CSL SW NE SW, Section 6-25-4 is dry and abandoned at 2,755 feet.

The Phillips Petroleum Co. is rigging up No. 1, NE cor. NE, Section 16-27-6.

J. H. Leggett and others' No. 1, SW cor. Lot 22, Section 18-25-8, is a new rig.

Lyon County

Loy & Chaney have a rig up for No. 1 Jones, SW cor. NE NW, Section 16-

(Continued on Page 141)

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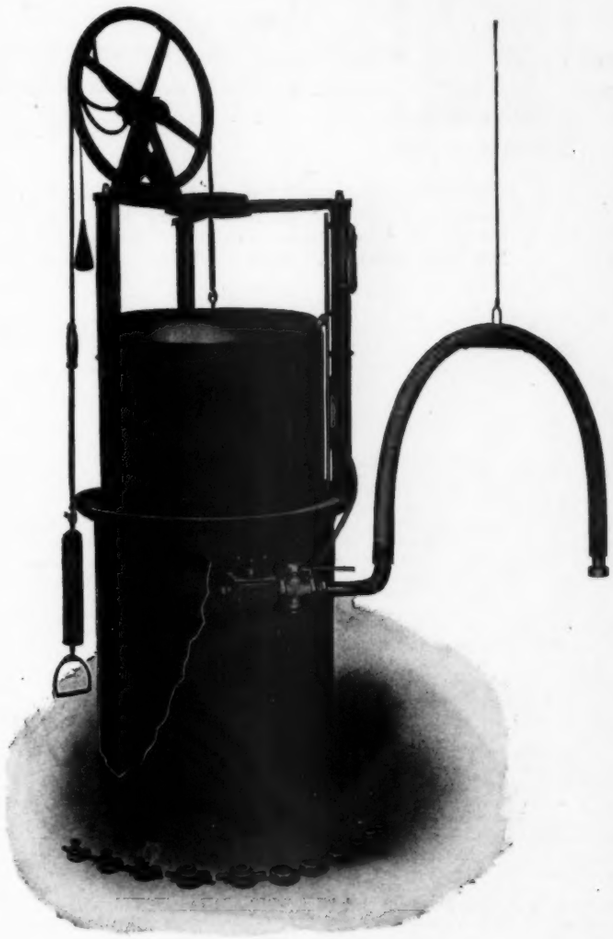

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California Field Operations

By L. P. Stockman

Four new wells completed at Inglewood, aggregating 1,477 bbls. initial production. Restriction of unnecessary drilling at Dominguez to preserve field for future development continues. Barnsdall Co.'s No. 5 Rosecrans makes 300 bbls. clean oil. Shell Co.'s No. 7 Gosnell, Ventura, makes 1,100 bbls.

LOS ANGELES, Calif., May 9.—Four new wells were put on production at Inglewood during the past week, good for an aggregate initial daily production of 1,477 bbls. The Standard headed the list with two. On Los Angeles Investment lease No. 1, the company finished a 220-bbl. well in No. 5, while No. 2 on Vickers lease No. 2 was good for 280 bbls. The former was drilled to 2,360 feet, while the latter was carried down to 2,584 feet, 8¼-inch oil strings being used in each instance. There are three drillers, No. 6 at 1,650 feet, No. 8 at 1,310 feet and No. 10 at 600 feet, on Los Angeles Investment lease No. 1, and steel rigs going up for Nos. 7 and 9. Los Angeles Investment lease No. 2 is credited with three drillers, No. 1 at 5,550 feet, No. 2 at 2,044 feet and No. 3 at 1,724 feet. Vickers lease No. 1 will soon have another producer, as No. 4 is in the oil sand at 2,281 feet. No. 5 is at 1,285 feet, No. 6 at 1,235 feet and No. 7 at 1,266 feet. Another new producer should also be added on Vickers lease No. 2, as No. 3 is being reamed at 2,207 feet, preparatory to landing a string of 8¼-inch. No. 4 is rigging up, while the foundation is in for No. 5. The company has landed a string of stove pipe in No. 1 on Vickers lease No. 3, at 115 feet and drilling should be resumed within a few days.

The Mohawk finished a 230-bbl. flowing well when No. 3 Machada was given a test. The oil tests 16.2 degrees and, although it is cutting 20 per cent sand, it is believed the output will clean up. The completion depth was 2,740 feet, a 6¼-inch oil string carrying 450 feet of 80-mesh screen being used to finish the hole. The receivership has been lifted and the company contemplates an ambitious drilling program in the hope of securing some of the flush production. Location has been staked for No. 4 and material should be on ground within a few days. The Petroleum Securities secured its first production on the Dabney-Lloyd property and incidentally finished the largest well completed during the week. The company's successful completion was No. 1, drilled to 2,169 feet and finished with an 8¼-inch oil string. The initial output, 747 bbls., tests 19.1 degrees and shows a cut of 4 per cent. No. 2 on this lease is standing cemented at 1,285 feet, while No. 3 is going ahead at 900 feet. Rigs are standing for Nos. 4 and 5 but neither has been spudded in. The company has two holes on the Cone property, No. 5 at 1,283 feet and No. 6 at 2,360 feet. Four strings are running on the Rubel lease and three new derricks standing. The Pan American suspended drilling on No. 7 Sentous after going to 3,109 feet without success. Gray sand predominated all the way and the company will allow the suspension to stand, pending further field developments.

The Associated is going right ahead with its development plans covering the Vickers lease and the big well which this property yielded last week will undoubtedly result in additional work. The company has six holes going down to the pay pay around the 2,500-foot level and will probably soon augment this number as three new rigs are erected and material on ground for several more. No. 3 shows 400 feet of hole, while No. 4 is at 820 feet, No. 5 at 1,333 feet, No. 6 at 1,650 feet, No. 8 at 1,254 feet and No. 9 at 1,320 feet. Rigs are standing for Nos. 7, 10 and 13, with timbers on ground for Nos. 11, 14, 15 and 20. It is reported Oscar Howard has a good looking sand in No. 1 Dominguez at 3,350 feet and that a string of 8¼-inch will be landed within a few days. The Petroleum Midway's No. 2 Moynier looks like an unusually good well at 2,566 feet and will probably be the company's next completion. A water shutoff was not effected on No. 5 Smith at 2,587 feet and another cement job will be necessary. The Universal Consolidated issued a suspension on No. 1 Youngsworth and will wait at 3,900 feet on field developments. The Wilshire also stopped drilling during the week and No. 1 Nolan will stand at 2,700 feet. The Shell is just drilling out No. 1 Rindge and will resume drilling at 1,334 feet.

Dominguez

The restriction of unnecessary drilling at Dominguez still prevails and the unwritten agreement to preserve this field for future development leaves little to report in this area. With the exception of several workovers, the only holes being drilled are the deep tests of the Marland and Shell Oil Cos. The former's No. 7 Dominguez, in the southern part of the field, has just passed the 5,000-foot level and formation will undoubtedly be watched very closely and numerous cores taken from now on. No. 2 Childs of the Shell in the eastern section of the district is going ahead rapidly and its present depth, 5,830 feet, is causing some anxiety to those who anticipate the development of a deep sand. On the Manuel lease, the Shell is still working with Nos. 1 and 5, which developed bottom water several months ago. No. 6 Manuel, just spudded in, is really a replacement well and included in the gentlemen's agreement reached some time ago by the Shell and Associated to prevent unnecessary offsets. The rig is going up for No. 27 Reyes and it is not unlikely the company will spud in this hole within a few weeks to safeguard its interest. The Union is apparently following a similar procedure on the Callender proprty, as No. 12 is scheduled for spudding tomorrow.

Torrance

One completion, one abandonment and three spuds practically sum up the development work at Torrance during the week. The Superior's No. 60 Torrance, good for 160 bbls., was the successful completion. It was drilled to 3,790 feet and finished with a 6¼-inch oil string carrying 286 feet of 80-mesh screen and 2,160 feet of 2½-inch tubing. The oil tests 15.8 degrees and registered a cut of 8 per cent. The company is making good progress with No. 62 Torrance, a recent spud, and is at present drilling ahead at 1,060 feet. The Shell abandoned No. 4 Bluemle, a former producer at 3,875 feet, because of mechanical trouble which prevented economical production. The Chanslor-Canfield-Midway Oil Co. is erecting rigs for Nos. 75, 103 and 104 on the Del Amo lease and will probably be in a position to start drilling within two or three weeks. The company is running two strings of tools on the Torrance lease, three on the Del Amo property and plugging back No. 2 Dominguez, an unsuccessful deep zone test. The General Petroleum is working on Nos. 1, 8 and 20 on the Poggi lease and building a rig for No. 9 Carson.

The Big Jumbo Oil Co. redrilled and deepened No. 1 Taylor at Long Beach to 4,417 feet and finished an 80-bbl. pumper, the oil testing 22.1 degrees and showing a cut of 10 per cent. The A. T. Jergins Syndicate is starting two new wells, Nos. 16 and 17, but has not actually spudded in. It is reported the difficulties existing between the Jergins Syndicate, Pan American and city of Long Beach have been adjusted. Jergins will go ahead with Nos. 16 and 17, while the Pan American will start work on Nos. 7 and 8 on the Union Pacific's right-of-way. Long Beach daily production was fairly stable last week but is expected to continue on the down grade for several months.

Huntington Beach

The Central Oil Co. is erecting a rig for No. 4 Cox at Huntington Beach and will start work as soon as preparations have been completed. The Standard is landing a string of 6¼-inch in No. 18 Bolsa Chica, which has been drilled to 5,441 feet, and will make a production test to ascertain whether the showings are commercially productive. The completion of this hole as a successful producer will mean a good deal to Huntington Beach and undoubtedly result in additional work if the output warrants it. Core samples show a fairly good sand but the well does not seem to have any kick. The Pan American's No. 1 Jesurum at Rideout Heights is scheduled to be bailed tomorrow morning and this 4,447-foot hole may result in production. The Petroleum Midway will also make a production test and is accordingly preparing No. 1 Hamberg at 4,620 feet. The company's other three holes, however, are standing idle.

Coyote

The Standard's No. 102 Murphy at Coyote is rated at 262 bbls., the oil being unusually clean and testing 26.1 degrees. This well, drilled to 4,460 feet, started off with a good flow but it was necessary to resort to pumping, as the gas pressure fell off very perceptibly. It was a little disappointment but the output might, perhaps, be increased by the addition of a little more hole. No. 101, on this property, is being swabbed at 4,748 feet, but it does not look as though a water shut-off has been secured. No. 40 Emory and No. 100 Murphy are both standing cemented, the former at 4,030 feet and the latter at 4,163 feet. The Standard's No. 21 Home, at Whittier, is being prepared for a production test after being plugged back from 5,045 feet to 3,920 feet, with the chances favorable for production in the upper zone. The St. Helens Petroleum is starting two new holes at Montebello, No. 2 Mulholland and No. 9 Monterey, the company apparently believing there is a good chance of a western extension.

The Chicksan Oil Co. is making fairly good progress with No. 3 Bradford at Richfield, now down 1,925 feet and is building a rig for No. 4. The Chanslor-Canfield Midway Oil Co. has reached a depth of 4,587 feet in No. 1-B Bradford, being carried down to the deep zone, and, barring unavoidable mechanical trouble, should be successful in reaching the sand discovered by the Chicksan within a short time. The Tonner Oil Co. is experiencing an unusual amount of hard drilling and has only 1,830 feet of hole in No. 1 Swan to show for its effort during the past three or four months.

Fullerton

The Union's No. 1 Olinda at Fullerton is reported at 1,900 feet and going through an extremely hard formation, permitting only a few feet of hole during each tour. No. 2 on this property, leased several months ago from the Olinda Land Co., is down 655 feet and experiencing the same hard formation encountered in No. 1. The Brea Canyon Oil Co. is in a hard sand at 1,700 feet and going ahead slowly. The Fullerton Oil Co. cemented a string of 11-inch in well No. 19 at 3,200 feet and is scheduled to drill out within a few days. The Shell is running four strings of tools in this field and has just cemented No. 1-A Puente at 4,527 feet. No. 3-A Pico is down 3,200 feet, No. 3-A Orange at 2,525 feet and No. 3 Fisher at 2,580 feet.

The Interstate Oil Co.'s No. 2 Mesa at Newport started off pumping 55 bbls. from 652 feet and, as previous core samples had indicated, showed a lighter oil than has been produced in the vicinity. Several additional wells are scheduled to be drilled soon and if a better quality oil is secured and the area extended, considerable drilling should be undertaken during the summer. The shallow depth at which production is secured will permit rapid drilling at a minimum cost and this should prove to be a big factor in stimulating new work. The Newport Petroleum's tunnel is approximately 450 feet in length and should be in a position to make a production test within a few weeks. About 2,000 bbls. of crude were moved out of the Newport section during the week, all of which had been in storage for some time. The dehydrator has been working overtime handling this

(Continued on Page 132)

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Following is a list of tankers, date departed, destination, kind of cargo and amount in barrels:

Occidental, April 29, Boston, crude	67,946
W. S. Rheem, April 30, New York, crude	94,901
Agwimars, May 3, New York, crude	75,428
Coastwise	
Montebello, April 27, Oleum, crude	75,459
K. R. Kingsbury, April 27, Richmond, crude	80,068
S. C. T. Dodd, April 28, Seattle, refined	74,155
Tejon, April 29, Seattle, fuel	74,891
Mericos H. Whittier, April 29, Avon, crude	75,275
Lebec, April 30, Seattle, fuel	65,187
W. S. Miller, April 30, Richmond, crude	74,682
La Placentia, May 1, Martinez, crude	73,554
K. R. Kingsbury, May 1, Richmond, crude	82,711
Exports	
Mina Brea (Br.), April 27, Vancouver, crude	45,670
La Purisima, April 28, Honolulu, refnied	40,464
El Grillo (Br.), April 29, Chile, fuel	70,983
San Nazario (Br.), May 1, Buenos Aires, fuel	102,736
Toco (Br.), May 2, Chile, fuel	65,323
Montebello, May 2, Honolulu, fuel	85,026
Liebre, May 3, Papan, crude	63,084
From Ventura	
Oleum, April 29, San Diego, fuel	32,960
Paul Shoup, May 3, Avon, crude	78,715
Oleum, May 3, Oleum, crude	33,180
From Port San Luis	
San Antonio, April 30, San Francisco, fuel	60,180
From San Francisco	
Betterton, April 27, Seaatle, fuel	80,223
Charlie Watson, April 29, Grays Harbor, refinel	16,411
Emidio, April 29, Seattle, refined	57,473
Tecumseh, May 1, China, refined	70,405
El Segundo, May 1, Point Wells, refined	31,467
Kewanee, May 2, Los Angeles, refined	26,405
Mericos H. Whittier, May 4, Iquiqui, fuel	74,321

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Rocky Mountain Area

By F. B. Taylor

Midwest Co. completes dozen wells in Salt Creek. Consolidated Oil Co. loses diamond set in deep test. Queen City Sunburst well making 800 bbls. but considered good for 4,000, the largest in the field. Kinney Coastal sells four Salt Creek tracts to The Texas Co. Showing near Boulder, Colorado.

CASPER, Wyo., May 9.—The Midwest Refining Co. completed a round dozen of new wells in the Salt Creek Field the past week. The Midwest Oil Co. completed three, the first on Section 19-40-79, that started off at 16 bbls. from a depth of 2,057 feet; the second, on Section 22-40-79, at a depth of 1,878 feet, and it is estimated at 20 bbls. The third, on Section 23-40-79, made 139 bbls. from a depth of 1,610 feet.

The Wyoming Associated Oil Co. drilled in five producers, one on Section 24-40-79, that found production at 1,603 feet, estimated at 10 bbls. and one on Section 2-39-79 that started off at 325 bbls. from 1,290 feet. Another on Section 35-40-79 made 60 bbls. from 1,651 feet. One on Section 24-40-79 is good for 312 bbls. at a depth of 1,883 feet. One on Section 30-40-78 completed at 1,990 feet, is a small producer of 20 bbls.

The Wyoming Oil Fields Co. completed a producer on Section 23-40-79 that made 32 bbls. from a depth of 1,460 feet and a second well on Section 23-40-79 that made 5 bbls. at 1,645 feet.

The Salt Creek Consolidated Oil Co. on Section 27-40-79, found a producer good for 30 bbls. in the second Wall Creek at 2,470 feet and one on Section 31-40-78, in the same sand, at 2,005 feet, that started off at 156 bbls.

Lose Diamond Set

The deep test of the Continental Oil Co., reported through the Casper office that another set of diamonds was lost in the hole last night. This well, on Section 2-39-78, in the Salt Creek Field, has had considerable hard luck. Some time ago the diamond bit was twisted off, causing a loss of the diamonds in the hole which cost $4,000, now another set is lost and which will add considerably to the loss sustained. The hole is thought to be on top of the Dakota sand at a depth of 2,725 feet.

The Sheldon Dome well of the Mack Oil Co., in Fremont County, about 50 miles north of Riverton, is drilling slowly at 2,880 feet and is only running daylight tours on account of heavy gas pressure. The boiler has been moved back from the rig and the objective sand is expected at 3,000 feet.

The deep test drilled on the Douglas Lake structure in the Fort Collins Field in Colorado, by the Union Oil Co. of California, is active again after a shutdown of several months. The bottom of the hole is at 4,334 feet and casing has been set at 4,200 feet. Drilling of the hole will now be continued to 4,500 feet as there is some question as to whether the hole has reached the Lakota sand or not.

The Producers & Refiners Corp. drilled in a 21,500,000-foot gasser in the Baxter Basin Field, south of Rock Springs, the past week. The well is on Section 13-17-114 and the sand was struck at 3,327 feet. This firm has a gas line from the field to Rock Springs which supplies that city with gas.

The Illinois Pipe Line Co. is relaying the Pilot Butte line from Riverton to the Pilot Butte Field. This line has been in regular service for the past seven years and recently has been giving trouble at some points. The company decided to relay the line, which is a 4-inch pipe.

The Kasoming Oil Co. lost a rig by fire at Bell Springs, about 15 miles north of Rawlins, Wyo., the past week. The well was drilled two years ago and is a gasser. How the rig caught fire is not known.

Salt Creek Gravity Basis

Salt Creek oil is now being sold almost all over the field on a gravity basis although the regular market quotations are per barrel. The gravity sales are being made by private agreement and the prices range as follows: 33 to 35.9 gravity oil, $1.80; 36 to 38.9 gravity oil $2; 39 to 41.9 gravity oil $2.25.

A Montana branch of the Rocky Mountain Oil & Gas Association was organized at Great Falls, that State, by operators and refiners last week. Officials from the Casper headquarters of the association were present and the new branch starts off with 50 members and has established a permanent headquarters at Great Falls.

Field Runs for the Week

Salt Creek	57,770
Teapot	2,220
Big Muddy	3,180
Grass Creek	4,780
Elk Basin	1,060
Greybull	25
Rock River	3,000
Lance Creek	1,030
Poison Spider	50
Osage	390
Hamilton Dome	640
Mule Creek	1,220
Lander	350
Byron	60
Lost Soldier	5,070
Ferris	80
Cat Creek	3,115
Sunburst	3,650
Craig	790
Fort Collins	1,070
Boulder	25
Florence	250
Rangeley	100
Tow Creek	140
Artesia	1,200
Rattlesnake	450
Hogback	530
Miscellaneous	200
Total	97,445

Sunburst's Largest

The Queen City Oil Co.'s gusher in the Sunburst Field is holding up with a production of about 800 bbls. daily and shows no sign of decreasing. The well is considered good for 4,000 bbls., but owing to lack of tankage, the full flow cannot be turned on and the control head is shut in until only about 800 bbls. daily is produced. The well is on Section 4-34-2, which has produced a number of big wells the past year, but the new strike is considered the largest well ever found in the field.

Salt Creek Tracts Sold

The Kinney Coastal Oil Co. has sold to The Texas Co. four tracts in the Salt Creek Field for a consideration of $375,000, reserving one-half the production. The total production from these holdings is around 1,500 bbls. daily and the net production to the Kinney Coastal from the one-half reserved amounts to about 400 bbls. daily after all royalties are taken out.

The tracts are known as Tracts N, V, W and AP; being so designated at the Government land sale held at Douglas in June, 1921. The tracts are located as follows, together with the prices paid and the buyers at the sale:

Tract N—Sold to Kinney Coastal for $18,000, comprising W half NW Section 19-39-78, and the N half NE Section 24-39-79. Located on south end of field. Contains 160 acres.

Tract V—Sold to Oscar Rhone for $38,000, comprising S half SW Section 40-78 and the NW NW Section 29-20-40-78 and the SE SE Section 19-40-78; located on east side of field; contains 160 acres.

Tract W—Sold to Oscar Rhone for $32,000, comprising NE NW and the S half NW and the SW SW Section 29-40-78; located on the east side of the field; contains 160 acres.

Tract AP—Sold to the New York Oil Co. for $11,000, comprising S half SE and the SW SW Section 32-40-78, and the NE NE Section 5-39-78; located on the east side of the field; contains 160 acres.

The Texas Co. has been somewhat short of crude for the refinery at Casper and through this deal will increase its crude supply. It is also expected the oil now being shipped from the Moffat Field on contract to the Midwest from The Texas Co. wells there will also be diverted to Casper for The Texas Co. refinery here. Also the Kinney Coastal will pay off all indebtedness the firm has and start with a clean slate.

The Kinney Coastal expects to start a second wildcat test north of Riverton, in Fremant County, Wyoming, and a test on the Schnoor Dome in the Bates Hole country south of Casper. This firm also has several wells in the Bolton Creek Field and a pipe line from that field to Casper.

Showing Near Boulder

The Ohio Oil Co.'s well on Section 22-1-69, near Boulder, Colo., is drilling at 5,240 feet on the Prince ranch and has a showing of oil and gas in what may be the Hygeine sand. The oil is estimated good for 5 bbls. a day and drilling is being continued. The Hygiene sand corresponds to the Parkman sand of Wyoming and the Dakota would therefore be very deep at this location, over 6,000 feet.

The Marine Oil Co., operating the Pilot Butte Field in Fremont County, north of Riverton is starting a deep test. The wells in Pilot Butte take their production from a depth around 1,000 feet in a shale fault. It has long been thought that the production comes from a mother pool, but two wells drilled to 3,000 feet in an effort to find this pool have been failures. The Pilot Butte structure is pronounced and very easily read on the surface and indicates a much larger field than the present development.

The Atlas Oil Co. has started drilling on the wildcat well located about 35 miles northeast of Douglas, Wyo., in Converse County. This well is on what is known as the Split Hill structure and spudded in last winter. Fuel was scarce and the company has completed a road to the Lance Creek Field which will be used to haul fuel oil from that field to the drilling well.

The Midwest Refining Co., drilling for the Utah Oil & Refining Co. in the Big Piney Field in the southwest corner of Wyoming, in Lincoln County, is at 3,230 feet. This test is designed to prove what lays below the shallow oil production in that area.

The Union of California has completed the laying of a short pipe line from the Wellington Field in Colorado to the Union Pacific tracks to a loading rack in order to take care of the oil from the big gassers.

The well being drilled by a local company on the Carey ranch, Converse County, about 8 miles east of Glenrock had the misfortune to lose the hole near the 400-foot level and the rig is being skidded for a new hole at present.

News from Fields of Canada

By Victor Lauriston

CHATHAM, Ont., May 9.—Ontario crude oil producers are continuing to strongly urge the retention of the crude oil bounty which was cut in half on June 30, 1924, and is to be entirely discontinued June 30, 1925. Strong representations have been made to the Dominion Government during the past year regarding the necessity of continuing the bounty if the petroleum industry in the older fields is to carry on, and last year representatives if the Department of Mines visited and secured information regarding the condition of the industry. No provision was, however, made in this year's Federal budget for further bounty payments. A meeting of the Crude Petroleum Producers Association of Canada, held at Petrolia on May 5, unanimously passed the following resolution:

"This meeting views with alarm the failure of the Government to introduce legislation restoring the bounty on crude petroleum; and the further failure to produce to the House any report of the information secured by Dr. Hume and James A. Russell of the effect of the removal of the bounty; and are unanimous that removal of the bounty will bring financial ruin to hundreds of people directly and indirectly dependent upon this industry, as operations cannot continue to be carried on in competition with United States oil admitted free of duty, and under the further handicap of having to purchase such supplies and equipment as are used in the business subject to a protective tariff."

In the Mosa Field, Middlesex County, W. J. Hussey, drilling on the Quick farm near Glencoe, has finished two shallow tests for which a fair production is reported in the Onondaga limestone. The territory is in line with the shallow oil development of 1917, and additional drilling will be undertaken.

In the Petrolia Field, a pumping rig on Eureka Street, owned by George McCall, formerly of the Canadian Oil Producing & Refining Co. properties, was destroyed by fire recently.

Sweetgrass Field

In the Canadian West, drilling is being generally resumed in the various fields. In the Sweetgrass Field, Canadian Oil & Refining Co. of Lethbridge has finished setting the 4½-inch casing in the Rogers-Imperial well, Section 29-1-11w4, and has resumed drililng at 2,630 feet. It is claimed the drill is close to the Ellis sands, and samples of oil have been bailed. One mile to the north, and lower on the structure, the Imperial Oil, Ltd., Dead Horse Coulee No. 2, which shut down last fall at about 1,000 feet, has resumed drilling with a rotary outfit and is making rapid headway.

In the Turner Valley Field, southwest of Calgary, a steel derrick is up for Royalite No. 5, about 200 yards north of Royalite No. 4. No. 6 is being similarly rigged up about 1¼ miles southeast of No. 4. Two heavy combination rotary and standard rigs will be used for drilling these tests. Illinois-Alberta Oil & Refining Co., in the same field, has a fair wet gas flow, about 2,000,000 to 3,000,000 feet a day, at around 3,040 feet and is reported to be getting a small production of light oil, testing about 75 Baume, the well flowing by heads for a few minutes at a time. This test will likely be drilled deeper, as

(Continued on Page 146)

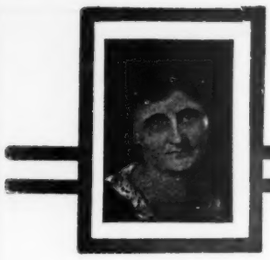
After the first of May the line of "Turbolite" Lighting Generators, and lighting equipment handled in the past exclusively by the Lucey Manufacturing Corporation of Texas will be manufactured by the Houston Pump and Supply Company.

This machine will in the future be available to the trade through all supply houses in the various fields both domestic and foreign.

Repair parts for all machines manufactured in the past will be available from the same sources or direct from the factory.

Houston Pump & Supply Company

Houston, — Texas



North Louisiana-Arkansas

By M. L. Vaughn

Heavy oil production in Smackover averaged 358,785 bbls. daily during the week; 222 wells drilling and 73 derricks and rigged up in Union County at close of the week. Urania district of La Salle Parish disappoints in second producer. Cotton Valley drilling limited to few companies.

SHREVEPORT, La., May 11.—Contrary to expectation, production continues on the up grade in the Smackover Field and with more than 200 wells to be heard from during the next few weeks, there is every indication that the peak of production is still to be heard from. Heavy oil from the Smackover Field, including both the deep and shallow production, averaged 358,785 bbls. a day during the past week, an increase of 46,365 bbls. a day over the previous week. Indications are that this week may eclipse all figures for the Smackover district, as it starts with a production of 338,975 bbls. on Sunday from the deep sand alone, with an additional 56,600 bbls. of heavy oil from the shallow sand, bringing the day's production of heavy oil up to 395,575 bbls. A number of big wells have been completed during the past few days and several old ones which had sanded up, have been brought back and are again numbered among the big producers.

Despite the unprecedented production in the Smackover Field, operators have been holding back as much of their oil as possible and the pipe line companies found they were not getting as much of the crude as they could handle. After a few days of private dickering, purchasers offering premiums of from 10 to 30 cents above the posted price of 40 cents for Smackover heavy, an increase of 20 cents was announced, which brings the price of oil obtained in the deep sand up to 60 cents. The Louisiana Oil Refining Corp. made a cut of 10 cents in Smackover 28 and above, and posted a new grade of 23 to 23.9 at 60 cents. The Atlantic Oil Producing Co. met the Standard's advance of 20 cents in Smackover below 24, but in addition to the Standard's prices is posting 28 and above at 1,35 per bbl., the Standard's highest posting being 27 and above at $1.30.

Total production from the Arkansas and North Louisiana Fields averaged 454,205 bbls. during the past week, distributed as follows:

Arkansas	
Smackover, heavy	358,785
Smackover, light	30,345
El Dorado	9,250
Nevada County	1,600
Stephens	1,905
Total	401,885
North Louisiana	
Bellevue	3,850
Caddo, light	9,600
Caddo, heavy	2,110
Cotton Valley	10,840
De Soto & Red River	4,220
Elm Grove	700
Haynesville	14,100
Homer	6,900
Total	52,320
Total both fields	454,205
Increase (bbls.)	46,605

Enforcement in Monroe

Difficulties arising through the failure of one company in the Monroe gas field to comply with the State Conservation Department's ruling regarding the consumption of gas for the manufacture of carbon, have been adjusted and peace again reigns. The Carson Carbon Co., a Canadian organization, had persistently refused to cut down its gas consumption, as ordered by the department of conservation on March 1, 1925, and is charged with having exceeded its limit by from 500,000 to 1,000,000 feet daily. An ultimatum was issued by W. J. Everett, conservation commissioner, May 5, instructing R. P. Webb, inspector in charge of the Monroe office, to file separate charges every day against the manager of the Carson Carbon Co. as long as the company continued to violate the department's orders. Two days later the company announced it would comply with the orders of the commission and it is believed there will be no more trouble.

Urania Disappoints

Operators are still loath to express any positive opinion as to the future of the Urania district in La Salle Parish, but there is at present very little to encourage the hope of a real oil field in this territory. The second producer in the Urania district came in last week flowing by heads at the rate of 125 bbls. a day, sanding up after flowing about 11 hours. A few days later it was cleaned out and came in flowing 600 bbls. of fluid per day, 98 per cent salt water, and the well was then closed in preparatory to pulling liner and setting screen. May 8, screen was set with packer and the well came back flowing 40 bbls. of fluid of which 90 per cent is salt water. Bill Rowe's test in Section 7-10-2e, about three-quarters of a mile northwest of the discovery well, is drilling in white sand and is running over with salt water, with no showing of oil or gas. Liner will be set and a test made at 1,540 feet, although not much is expected of this well, judging from present indications.

Wildcatting in Lafayette

Lafayette County, Arkansas, is again the center of a wildcat drilling campaign of considerable interest. After drilling a number of tests in the vicinity of Buckner, east of Lewisville, for the purpose of locating structural conditions in a block of leases owned by them in the northeast portion of the county, the Humble Oil & Refining Co. has purchased another block of leases, running southwest from Buckner, through Townships 16 and 17 South, Range 24 West, and down into Township 16 South, Ranges 25 and 26 West, and propose to drill several tests on this acreage.

South of the Humble blocks, Frank E. Estes and Harry E. Oliver have acquired a block of more than 8,000 acres in Township 18 South, Ranges 23 and 24 West, and have started drilling a test. The work will be in charge of Colonel Estes personally and cores of all formations will be taken and an accurate log obtained.

Directly south of the Oliver and Estes well, a location has been made by George W. Wetherbee for a test to be drilled in Section 8, Township 19 South, Range 25 West, and the Arkansas Fuel Co. is leasing up acreage in the vicinity of Bradley on which they propose to drill. A careful study of the logs of wells drilled in Lafayette, Columbia and Miller Counties show these blocks are located on a structural high.

The Gulf Refining Co. has taken over a block of leases on some 3,000 acres in the west edge of Union County, Arkansas, and is arranging to drill a deep test. The leases were obtained from J. P. Evans and are in Township 17, Range 18, about 15 miles southwest of Smackover and half way between the El Dorado and Stephens districts.

Repeated showings of oil and gas in wildcat tests in the south end of Claiborne Parish and the north end of Bienville have encouraged operations in this territory and the price of leases in the vicinity of the Triangle Drilling Co.'s well, 7 miles north of Arcadia, have soared out of sight during the past two weeks. Another test of interest will be started at once by G. W. Brown and J. P. Evans, who have obtained a block of acreage 3 miles west of Gibbsland and have made a location in the SE quarter of Section 20-18-7. Showings of oil were obtained in this vicinity in 1919 by the Early Petroleum Co., and geological reports are unusually favorable.

Arkansas Completions

This week's Smackover completions and other field developments will be found elsewhere in this issue under an El Dorado, Ark., date line and only the upper sand completions in Smackover, with a few exceptions, will be treated here.

Carrigan and others junked the hole at 2,260 feet in No. 1 Wingfield, Section 5-16-15, and the well was abandoned.

O. G. Murphy completed No. 2 Murphy, Section 9-16-15, flowing 1,500 bbls. at 2,452 feet.

The Sure Oil Co.'s No. 4 Flenniken, Section 5-16-15, is flowing 800 bbls. at 2,392 feet.

In the Louann district, two light oil pumpers were completed, the Arkansas Fuel Oil Co.'s No. 3 Murphy, Section 8-16-16, pumping 70 bbls. at 2,638 feet, the Magnolia Petroleum Co.'s No. 1 Freeman, Section 7-16-16, pumping 24 bbls. at 2,648 feet.

The Houston Oil Co. tested dry at 2,656 feet in No. 1 Parks, Section 8-16-16, and the well was abandoned.

Ouachita County

Completions in the Ouachita County area of the Smackover Field numbered 21 and were about equally divided between the light and heavy oil districts. New production for the week amounted to 7,018 bbls. of which 6,600 was obtained in the deep sand.

Arkansas Fuel Oil Co. completed No. 4 Snyder, Section 34-15-15, pumping 25 bbls. at 1,982 feet.

Bray-Hawthorne tested dry and abandoned No. 1 Copenhaven, Section 13-15-17, at 2,530 feet.

H. E. Clark completed No. 2 Shirey, Section 36-15-17, pumping 25 bbls. at 2,317 feet.

Forest Oil Co.'s No. 1 Arnold, Section 26-15-16, made a 100-bbl. pumper at 2,075 feet.

The Home Refining Co.'s No. 1 Berg, Section 27-15-17, is swabbing 25 bbls. at 2,402 feet.

H. L. Hunt and others tested dry in No. 1 Pace, Section 21-15-17, and the well was abandoned at 2,529 feet.

Imperial Oil Co.'s No. 5 McClanahan, Section 6-16-15, flowing 300 bbls. at 2,405 feet.

Invaders Oil Co.'s No. 2 Hardin, Section 22-15-16, made a 75-bbl. pumper at 2,078 feet.

Louisiana Oil Refining Corp. completed No. 1 Bland, Section 27-15-17, pumping 20 bbls. at 2,312 feet, and No. 2 Bland in the same section pumping 30 bbls. at 2,332 feet.

Marine Oil Co. completed No. 5 Hays, Section 4-16-15, flowing 2,000 bbls. at 2,359 feet.

Miles and others completed No. 2 Neeley, Section 26-15-16, flowing 30 bbls. at 2,060 feet.

Simms Oil Co.'s No. E-4 Berg, Section 30-15-15, made a 15-bbl. pumper at 2,015 feet.

Whittiken and others completed No. 6 Anderson, Section 23-15-17, pumping 23 bbls. at 2,382 feet.

Stephens District

Magnolia Petroleum Co. got a 5-bbl. pumper in No. 7 Hammond, Section 25-15-19, at 2,153 feet.

Cotton Valley District

Three completions in the Cotton Valley district during the week added 510 bbls. to the output.

Ohio Oil Co. completed No. 30 Bolcau, Section 27-21-10, pumping 100 bbls. at 2,546 feet; No. 2 Cox, Section 15-21-10 pumping 300 bbls. at 2,547 feet, and No. 6 Gray, Section 26-21-10, pumping 110 bbls. at 2,566 feet.

Caddo Parish

Fortuna Oil Co.'s No. 14 Doan-Thigpen, Section 5-20-15, made a 3-bbl. pumper at 2,218 feet.

Gulf Refining Co. completed No. 222 Ferry Lake, Section 16-20-16, pumping 15 bbls. at 2,286 feet.

De Soto Parish

Greyhound Syndicate got salt water in No. 1 Pollock, Section 36-11-14, and the test was abandoned at 2,535 feet.

Natchitoches Parish

R. O. Roy abandoned his test on the C. M. Durr lease in Section 27-10-10 at 2,535 feet. It was 10 miles south of the Bull Bayou district.

Sabine Parish

Flo-La Oil Co. got salt water in No. 1. E. A. Walker, Section 8-5-12, and the test was abandoned at 2,535 feet.

Union Parish

Thrift Oil & Gas Co. completed No. 1 Smith-Russell, Section 10-20-4e, making 17-000-000 feet of gas at 2,175 feet.

Nevada County, Arkansas

Ames and others completed No. 4 Womack, Section 10-14-21, pumping 100 bbls. at 1,188 feet.

Drilling Operations
Union County, Arkansas

Drilling wells in Union County alone numbered 222 at the close of the past week, with 73 derricks and rigged up. The tide of development is still in the direction of the deep sand territory and despite the fact that light oil is now at a premium, the light oil districts are comparatively deserted.

J. A. Alphin is drilling at 2,235 feet in No. 1 fee, Section 4-16-15; Amerada Petroleum Corp. is drilling No. 6 Flenniken, Section 6-16-15, at 2,320 feet; No. 5 Lyell, Section 3-16-15, at 1,500 feet; No. 6 at 2,330 feet, and derrick up for No. 7, with No. 1 Lyell, same section, arranging to drill in with cable tools at 2,360 feet.

Arkansas Fuel Oil Co. is shut down at 2,232 feet in No. 5 Alphin, Section 11-16-15; No. 1 Burton, Section 33-16-15, drilling at 1,370 feet; No. 11 Cullens, Section 3-19-15, at 500 feet; No. 5 Ferguson, Section 6-16-15, arranging to test at 2,395 feet, and No. 6 building derrick; No. 1 Scott, Section 1-16-17, arranging to test 6 feet of sand at 2,226 feet, and No. 2, arranging to pump.

Baggott and others are rigging up to drill No. 1 Houston, Section 12-16-15; J. W. Clark, drilling at 2,415 feet in No. 6 Cook, Section 17-16-15; set 4½-inch casing at 2,455 feet in No. 1 Palmer, Section 9-16-15, and drilling No. 4 same section, at 1,725 feet, and derrick up for No. 3 Smith, Section 16-16-15. Clark and Melat have temporarily abandoned No. A-2 Wells, Section 15-16-15, at 2,453 feet, and rigging up to drill B-3, same section.

Sam Cook, drilling at 2,200 feet in No. 2 Murphy, Section 9-16-15; Crawford & Sebastian, lost hole and skidding derrick in No. 5 Graves, Section 3-16-15, drilling at 1,615 feet in No. 7; lost hole at 2,245 feet in No. 6 James, Section 6-16-15, and drilling second hole at 1,940 feet, and drilling at 50 feet in No. 7, same section. J. E. Crosbie is drilling Lawton A-1, Section 10-16-15,

(Continued on Page 136)

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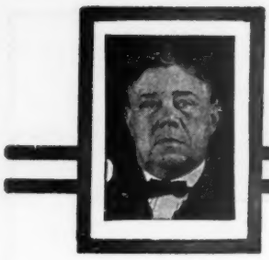

Gulf Coast Oil Operations

By P. L. McGreal

Hull Pool, with 5,800 bbls. new production, and South Liberty Pool, with 3,150 bbls., chief factors in increased output. Gulf Production Co.'s No. 20 Davis, in Big Creek Pool, flowing 800 bbls.; its No. 50 Phoenix, Hull Pool, flowing 2,500 bbls. The Texas Co.'s No. 3 Hannah, also flows 2,500 bbls.

HOUSTON, Tex., May 11. — Wells completed in the Gulf Coast division during the week number 27, of which 6 were dry. The new production developed totals 10.355 bbls. The Hull Pool contributed 5,800 bbls of the new output during the week and the South Liberty Pool 3,150 bbls. The Big Creek Pool added an 800-bbl. producer to the aggregate and one failure, a deep test. Nine wells are bailing at the close of the week.

As a result of this large new production, the estimated daily average output of the division is placed at 105,736 bbls. for the week ending May 9, which is an increase of 4,668 bbls. over the estimated daily average for the week previous. The daily average for the South Texas Pools is 97,929 bbls. and for the South Louisiana side 7,807 bbls. Liberty County, in which the Hull and South Liberty districts are located, is producing nearly 50 per cent of the gross in the Coastal region.

The new Lockhart Field in Caldwell County is credited with a daily average of 5,320 bbls. for the week ending May 9, in contrast with 2,400 bbls. last week, due to new wells and increasing the output of the first wells by working them over. As a consequence of this increase the lighter gravity southwest division shows a daily average production of 46,410 bbls. for the week, compared with 43,665 bbls. ending May 2, or an increase of 2,745 bbls. per day. The Luling and Lockhart (Lytton Springs) fields are located in Caldwell County and together they produced 33,930 bbls. of the total credited to the southwest division for the week.

Record Total

The grand total for the heavy gravity Coastal area and the lighter grade in the southwest division is 152,146 bbls. for the week, or an increase of 7,413 bbls. over the seven-day period ending May 2. This is a record figure for these two divisions combined. So far as influence on the market is concerned these two divisions are in classes by themselves and increases in the output of either should have very little effect upon North Texas or Mid-Continent prices for crudes. The product of the southwestern fields has a small gasoline content, which after its abstraction runs down to a fuel oil. This is the general rule. The Coastal crude, particularly Grade A, has a large lubricating content. The Laredo (Webb County) and Jim Hogg County fields are remote with no outside pipe lines. The logical terminus for a trunk line would be to the east at Aransas Pass, a deep water port near Corpus Christi, about 200 miles from production. The output of these fields has never reached a point where the expense incident to the laying of a trunk line was justified and thus far shipments have been made in tank cars from Mirando City over the Tex-Mex Railroad to Aransas Pass on the east; Laredo and to San Antonio. In the absence of a trunk pipe line the product has been sold by producers on a contract basis, the present contracts being at $1 and $1.05. The Texpata Pipe Line Co., with gathering lines to the various pools in the two counties, terminating in a storage system at Mirando City, is one of the buyers. The Magnolia Petroleum Co. is another. The Sun Oil Co. and the Swiftsure Petroleum Co. are now receiving deliveries on old contracts. In addition to these buyers purchases have been made by refiners at Laredo, Mirando City and San Antonio. The United Central Oil Corp., formerly the White Oil Co., recently purchased producing properties in Webb County Pools. The crude will be shipped to its refinery at Pasadena on the Houston ship channel.

The situation in the Luling Field has been about the same as in the Webb-Jim Hogg Counties, as far as price making is concerned. The bulk of the production of that field to date has been disposed of on a contract basis. In the early days of the development the Magnolia Petroleum Co. contracted with the United North & South Oil Co., which opened the field, for 1,000,000 bbls. at 50 cents per bbl. Other contracts were made by the Magnolia company at 75 cents. The Magnolia company laid 180 miles of 8-inch welded pipe line east to Magpetco, near its big Beaumont refinery, through which it transported its purchases of Luling crude. Later the Atlantic Refining Co., the Humble Oil & Refining Co., the Grayburg Oil Co. and others entered the field as buyers of the crude on a contract basis. The Grayburg company laid a small line to its San Antonio refinery, but the others shipped out in tank cars to points on the Houston ship channel. The crude was topped and the residuum turned into the fuel oil market.

Magnolia Enters Lockhart

The Magnolia company has entered the Lockhart Field as buyer and is extending its line there from storage tanks in the Luling Field. It has posted a price of $2, the Lockhart crude being a higher gravity than the Luling product.

The Grayburg Oil Refining Co. buys most of the Somerset crude, posting the same prices as are paid for North Central Texas crude. The Owens Refining Co. gets the Milam County shallow sand oil on a contract basis. It is topped and the gasoline sold to independent filling stations in Milam and adjoining counties. The Elliott Jones Refining Co., of San Antonio, has a contract for the Calliham crude, which is heavy gravity and more akin to the Coastal grades. The price is sased on Coastal quotations, plus line and loading charges. The output of the Somerset, Milam County and Calliham districts is so small that it makes no impression on the general market situation.

Thus it will be seen that the Webb-Jim Hogg Counties will never be much of a price factor in the absence of a trunk pipe line and the possibilities for such a line are too remote to receive consideration. The Luling Field might be termed a "local market," very little of the present production being available to outside buyers. The Somerset, Milam and Calliham fields are minor quantities. It is not believed the Lockhart Field will ever reach the stage where its production will have any effect upon prices.

The Gulf Coast territory, the new South Liberty Pool is not considered a menace to prices as it stands today. Approximately 60 per cent of the present output of the Hull Pool belongs to the Gulf, The Texas and Republic Productions companies and these have an outlet through their own refineries, or connections. Conversations with men in charge of large corporations in the Coastal country who are familiar with production and the market for refinery products, finds them optimistic and they predict a prosperous summer season for the whole industry.

There is nothing now on the horizon that would indicate new producing territory in the near future, either in the Coastal region or the southwest counties, notwithstanding wildcatting activity. The use of the seismograph and torsional balance methods of locating saline domes is still in general use in the Coastal Plains Belt and many formation tests are being drilled by the major companies to check up on the recordings of the mechanical systems. The section around Fulsear, in Fort Bend County, and Katy is now being "dynamited" and tests are drilling in Waller County.

To the west and southwest, Bastrop, Guadalupe, Bexar, Wilson, Medina, Live Oak, McMullen, Kleberg, San Patricio and other counties are being punctured at various places by the wildcatter. Some of these tests are drilling near producing areas in the hope of getting an extension and others are rank wildcats.

Daily Average Gross Production

The estimated daily average gross production for each district in the Coastal and southwest divisions is as follows:

Districts—	Gross Bbls.
Batson	1,646
Blue Ridge	1,721
Barber Hill	111
Big Creek	1,931
Dayton	61
Damon Mound	1,130
Edgerly (La.)	661
Goose Creek	9,191
Humble	4,741
Hull	23,330
Jennings (La.)	1,030
Markham	90
Lockport (La.)	210
Orange	13,775
Pierce Junction	639
Spindleop	1,300
Saraoga	1,610
Sour Lake	4,277
South Liberty	15,845
Vinton (La.)	5,812
West Columbia	13,170
Welsh-Anse La Bute (La.)	91
Miscellaneous	127
Total	105,736
Southwest—	
Luling	23,610
Laredo	4,215
Somerset	2,620
Calliham	110
Rockdale-Minerva	470
Jim Hogg County	4,050
Lockhart	5,320
Total	46,410
Grand total for week	152,146
Grand total last week	144,733
Increase	7,413

The following is a summary of the week's operations in the Coastal Pools.

District—	Comp.	Prod.	Dry	Salt.	Bail.
Batson	1	20	0	0	0
Big Creek	2	800	1	0	0
Edgerly	0	0	0	0	1
Goore Creek	2	40	0	0	0
Humble	0	0	0	0	1
Hull	4	5,800	0	0	0
Markham	1	0	1	0	0
Orange	3	500	0	0	0
Sour Lake	1	30	0	0	0
South Liberty	10	3,150	3	0	1
W. Columbia	1	15	0	0	0
Miscellaneous	2	0	2	0	0
Totals	27	10,355	6	0	3

In the Big Creek Pool the Gulf Production Co.'s No. 20 Davis is flowing 800 bbls. at 3,750 feet. The Texas Co. aban-

(Continued on Page 142)

East Central Texas

By Staff Correspondent

CORSICANA, Tex., May 9.—Routine completions in developed fields summed up the results in the East Central Texas area in the past week. A few wildcat locations were marked off in Navarro County and a new test was started in Milam County.

Recent Completions

In Freestone County, the Quaker Oil Co.'s No. 1 Goodnite, Wortham townsite, was dry and abandoned at 3,090 feet.

The Humble Oil & Refining Co.'s No. 17 Ella Dodd, Ritchie survey, started at 60 bbls., 50 per cent water, from sand at 2,992-3,043 feet.

Flynn and others' test on the Evans farm, Ritchie survey, was dry and abandoned at 3,174 feet.

McKinney & Dubble's No. 1 Purifoy, Ritchie survey, was abandoned as dry at 3,051 feet.

Limestone County

The Pure Oil Co.'s No. 16-B Smith, McNulty survey, Limestone County, started at 120 bbls. from sand at 2,979-3,009 feet.

Navarro County

The following completions were reported in Navarro County, mostly in the Powell Field:

Gulf Production Co.'s No. 1 Green, Simonton survey, Bazette area, dry and abandoned at 3,200 feet.

Stroube & Stroube's No. 1-B Hill, Smith survey, Powell Field, sand at 2,828 feet, total depth 2,935 feet, 200 bbls.

Tidal Oil Co.'s No. 5 Bush, Smith survey, sand at 2,898-2,955 feet, 125 bbls. on the pump.

Humble Oil & Refining Co.'s No. 19-C Irvine, Taylor survey, sand at 1,581-1,634 feet, 20 bbls.

Pure Oil Co.'s No. 15 Ramsey, Smith survey, sand at 1,580-1,652 feet, 20 bbls.

Garland Kent's No. 15 Kent, McNeil survey, dry and abandoned at 3,012 feet.

Humble Oil & Refining Co.'s No. 1 Smith, Havens survey, sand at 1,605-50 feet, 35 bbls.

Richardson and others' No. 2 Millican, Latham survey, Richland district, dry and abandoned at 3,197 feet.

Little New Work

Very little new work is being started in any part of the East Central Texas area. All interest in the territory northeast of the Powell Field has been killed by the repeated failures to find production or even good oil indications in northeastern Navarro, Kaufman and Hunt Counties. Whatever wildcat interest there is is directed principally at the territory southwest of the Mexia Field, where there is hope of finding pools in Edwards limestone.

In Navarro County, DeMotte and others have made a location for a wildcat test on the Vinson farm, Bailey survey. Rowan and others have made a location for a test on the Warren farm, Doom survey. Moore and others have made a location for No. 1 Moore & Banks, Beauchamp survey. In the Currie district, the Sun Oil Co. has started drilling No. 1 Hillburn, Boren survey. There is already a test down 3,101 feet and shut down on the Boren survey. It is Stroubman and others' No. 1 Hillburn.

In Milam County, Butler Boys' No. 1 Woodall, on the Wicksun survey, is drilling below 1,900 feet. The Magnolia Petroleum Co. was fishing at 1,500 feet in No. 1 Kime, on the Carson survey.

In Falls County, C. H. Harrison and others were at a total depth of 3,141 feet in No. 1 Thompson, Mitchell survey. The chalk was found from 2,582 to 2,869 feet.

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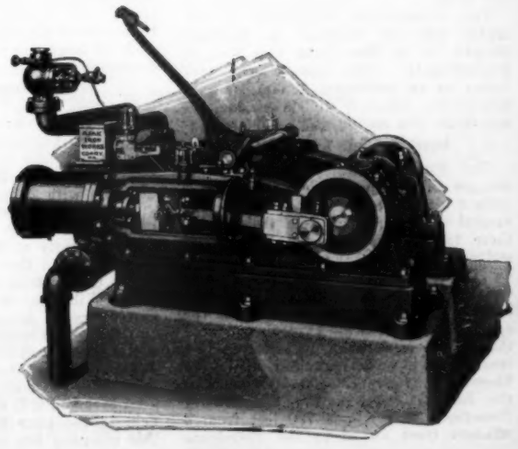


The Ideal Ajax Twin, the engine that is imitated.

Kentucky—Tennessee

By Vern T. Whitney

Vedder Oil Co.'s 200-bbl. producer, Fannis Creek district, Clinton County, best of week. Kanawha Co. gets 60-bbl. well, Sulphur Creek; Rockfield Co., 50 bbls., Richpond Pool, Warren County. Hice and others, 75 bbls., Allen County; Black Gum Co., 50 bbls., Lee Owsley district; C. A. Leper, 100 bbls.

BOWLING GREEN, Ky., May 11.—A survey of the southern fields, including Kentucky, Tennessee and Mississippi, shows there are 256 rigs on locations. In Kentucky there are 205 rigs up, 198 of which are active; in Tennessee, 27 and in Mississippi 24.

Barren County, in the western division of Kentucky, is in the lead with 31 drilling wells, and the North Weir Sand Field of Lawrence and Johnson Counties led the eastern tier of counties with 19 operations. The Tinsley Bottom Pool in Clay and Jackson Counties leads the active operations in the Volunteer State with 10 drilling wells, while Morgan County, with seven machines working, runs it a close second.

Leasing is very active at this time in Tennessee and Mississippi and the past month has witnessed the entry of several major companies into these States which will probably mean the starting of several wildcat operations.

Several deals were consummated in Warren County, Kentucky, during the week, the largest being that of the Petroleum Exploration, which took over a number of producing properties from the Amfot Oil Corp., including the Ennis tract, consisting of 60 acres, with 4 producing wells; the Martin 118 acres with 3 wells, the Miller 243 acres with 11 wells, all in the Davenport Pool, and the Bailey farm of 131 acres with 4 wells situated in the Browning sector, 14 miles southwest of Bowling Green.

The wells taken over by the Petroleum Exploration are all of settled production and are producing from the deep sand below the black shale.

The Onsel-Harnahan Oil Co. purchased the Wilson 27-acre lease in the Davenport Pool, on which there are six producing wells. Arrangements are now being made to drill several additional holes on the property.

Several deals are also reported from the Owensboro district, since the bringing in of the big well on the Col. Powers farm in the Swope Pool in Ohio County. E. V. Fowler, C. H. Keyes, of the Keyes Oil Corp., and C. H. Andrus, representing the Central Southern Oil Co., purchased several leases in the Swope area and are now making preparations to drill several test wells.

The Atlantic Oil Producing Co. recently sold its holdings in Grayson County to the Red Bank Gas Co., of Pennsylvania. This concern also took leases on an additional 12,000 acres in this county, where it will do considerable test work this spring and summer.

Another Well in Greenup

The bringing in of another small pumper in Greenup County has created quite a bit of interest in that section and several companies have sent their scouts there to pick up acreage. This latest strike is Thompson and associates' No. 1 on the Floyd Hall farm, on Tygarts Creek, estimated good for better than 5 bbls. from the Corniferous sand. In the opinion of those who have investigated the well, it is showing up better in this sand than any wildcat well drilled in Eastern Kentucky since the discovery of the Idamay Pool in Lee and Owsley Counties. This test is 700 feet from a 465-acre tract owned by the Petroleum Exploration, which is expected to start a test shortly on its holdings.

L. C. Young, president of the Young Gasoline Co. and vice president of the Rex and Pyramid, owns a large acreage in Greenup County and predicts a good field will be the result of further drilling. At present four operations are under way, L. C. Young's No. 1 Bennett, 2 miles south of his gas well on the Burke place; Tom Hayes' No. 1 test, 1 mile north of the recent producer of Chenault Brothers; Foreman and others' test in the same vicinity and unknown parties' No. 1 Baglin, on the Ohio River.

Week's Work

The same number of completions, 1 less producer, an increase of 371 bbls. in production 2 less dry holes and 3 more gas wells is the record made during the week in review in the Kentucky Field compared with the previous week. The wells were distributed by counties as follows:

County—	Comp. Wells	Prod.	Dry	Gas
Barren	7	6 44	0	0
Allen	6	4 115	2	0
Warren	5	4 105	1	0
Cumberland-Monroe	3	3 260	1	0
Wayne	3	2 25	1	0
Lee-Owsley	3	3 110	0	0
Floyd	3	0 0	0	3
Lawrence-Johnson	2	2 22	0	0
Johnson-Magoffin	2	2 28	0	0
Morgan	1	0 0	1	0
Greenup	1	1 5	0	0
Estill	1	1 1	0	0
Simpson	1	1 8	0	0
Total	38	28 723	6	4
Last week	38	29 352	8	1
Difference	0	1 371	2	3

Western Division

Development work in the western division of the State is still on the down grade and if something does not happen in the near future in the way of bringing in a new pool or new producing areas work will be at a standstill. Most of the work this year has been confined to Barren County which has maintained the lead in development work throughout the entire State for the past six months.

In Warren County the Richpond Pool and the McLemore Pool have had the bulk of the work, while in Allen County the Frost Pool, which developed a deep pay, kept the drills busy there the first few months of the year. Work in the Owensboro district has revived since the new wells in the Swope Pool have shown excellent production, and the next few months will be busy ones. The Sulphur Creek and Fannis Creek districts of Cumberland County have shown some wells of large size which have stimulated activities there to some extent.

Cumberland County

The best well of the week is the Vedder Oil Co.'s No. 2 Tompkins, in the Fannis Creek district of Clinton County, good for 200 bbls. at 420 feet. The second Sunnybrook sand from 458 to 472 feet was shot with 20 quarts of nitro.

At Sulphur Creek, the Kanawha Oil Co.'s No. 2 E. M. Coop is flowing 60 bbls. naturally at 800 feet, 280 feet below the Pencil Cave.

The Cumberland Oil Syndicate's No. 1 C. V. Williams, on Goose Creek, is reported dry at an approximate depth of 500 feet. This test was drilled through the second Sunnybrook sand.

The Ohio Oil Co., of Findlay, Ohio, is watching Cumberland County with keen eyes and it is expected will enter the field in the near future. It is reported this company has an option on several properties in the Fannis Creek and Sulphur Creek Pools. The Ohio scouts have also been keeping in close touch with the situation at Tinsleys Bottom where they have already picked up considerable acreage.

Warren County

The Rockfield Oil Co.'s No. 14 R. C. Smith, in the Richpond district, south of Bowling Green in Warren County, is pumping 50 bbls. at 464 feet. Sand from 452 to 464 feet was shot with 40 quarts of nitro. The Illinois-Kentucky Oil Syndicate's No. 1 Vernon Andrews, near the Vance, at Rockfield, is dry at 80 feet below the shale.

In the Davenport Pool, Onsel-Harnahan Oil Co. finished No. 6 Wilson for 35 bbls. flush at 1,168 feet. It is 500 feet east of No. 5 and 520 feet east of No. 7.

In the Gillespie Pool, Cunningham & Henry's No. 9 Bryant is a 15-bbl. pumper at 1,140 feet. Shale was from 1,001 to 1,085 feet, and the sand from 1,134 to 1,140 feet, was shot with 80 quarts. On the Ellis farm, the Lucille Oil Syndicate completed No. 4 for 5 bbls. at 1,136 feet.

It is encouraging to watch the new development in the shallow sand pools of Warren County, especially the Sandridge district, northwest of Bowling Green, opened by Makeever Brothers, of Boston, Mass., and the Richpond Pool, southwest of Bowling Green, opened by W. Roy Hogan. Production in both these pools is holding up remarkably well and has proved to be different than that in the Rockfield district, which came from crevices. Makeever Brothers have 46 wells pumping on the Sandidge. Shields and Young properties out of 49 drilled, which is an excellent record. These parties have a systematic plan of development, keeping accurate logs of their wells and a complete check on the sand conditions. They also conserve their gas and at present have sufficient gas to furnish fuel for all development work on their properties. There are between 60 and 70 proven locations to drill in the Sandidge area and, according to reports, the Makeevers will soon start an active campaign. Norman Garland, field manager, has just returned from Bartlesville, Okla., where he closed a deal for his concern involving 450 acres in Washington County, in the Bartlesville sand district. Makeever Brothers control the Hiawatha Company, which has a large production in the Slick Field, Oklahoma, and also have valuable holdings in Indiana and Illinois.

There are approximately 42 wells on the pump in the Richpond section belonging to Roy Hogan, the Rockfield Oil Co., Bolling & Loman, Caskey & Pryor and the Essex Oil Co. Oil of high gravity is found at from 450 to 500 feet, in the Mississippi lime, and the wells are holding up in fine shape. The wells come in making from 5 to 100 bbls. daily and settle rapidly to from 1 to 4 bbls.

Barren County

Five oil producers and one gas well were finished in Barren County the past

(Continued on Page 78)

Fields of the Central West

By Whit

FINDLAY, Ohio, May 11.—A charge of nitro-glycerin brought forth the real feature of the past several days in the Central West Field, when the Empire Gas & Fuel Co.'s No. 1 S. S. Troyer, better known as the Fair farm, Section 33, Hardy Township, Holmes County, in the Central Ohio Field, which was a fair gas well, developed into an oil producer estimated at 125 bbls. flush from the deep Clinton formation. Whether or not the shot opened up a crevice is not known, but it is by far the best well yet found in Holmes County and will eventually spur on more active development work in what has until of late been considered an exclusive gas producing area. The "soup" as they call it, did the work and did it well. The well is on the northwest corner of the farm, and offsets will naturally be started at once, for wells of that calibre are few and far between in the Central West at this time.

None of the fields that constitute the Central West showed much activity in completed work, and the old Lima Field's reports were below par. This in part was due to the cold weather that prevailed for a few days, after a number of days when the thermometer reached close to 90 degrees.

Lima Field

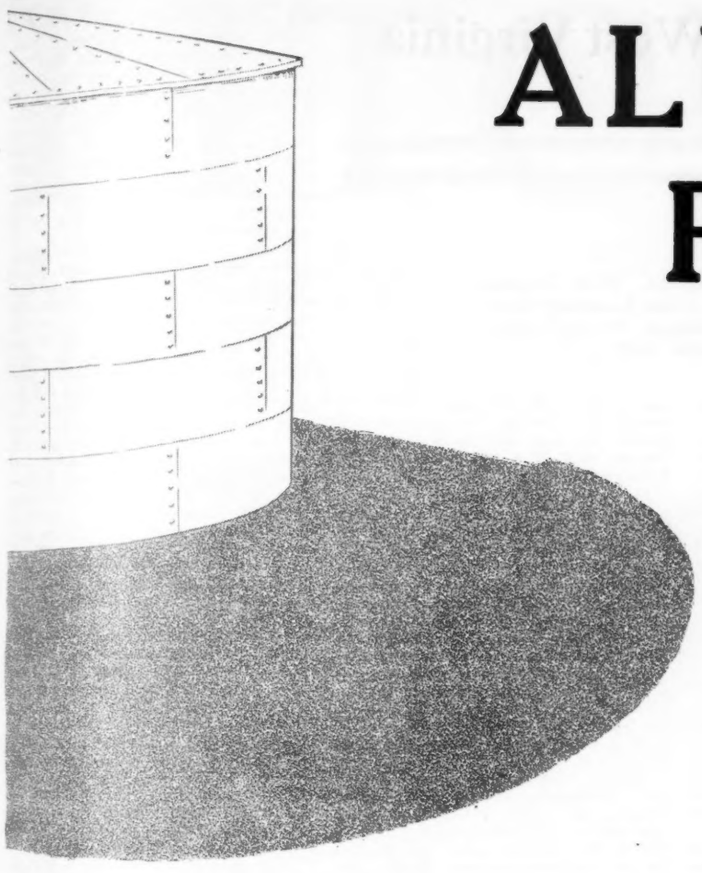
Only five completions were reported from the Lima Field of Northwestern Ohio, and they were all within defined limits of production. Paulding County, one of the promising spots in the new extensions to the Lima Field, is not attracting the attention it should, but the recent completion of the Bailey farm well, in the Payne Field, in Harrison Township, of that county, will mean the drilling of a score or more wells as fast as tools and materials can be moved. J. H. Harmon, a well known oil and gas operator of Mansfield, Ohio, has just returned to his home from Payne, and while there had the pleasure of seeing the U. S. A. Oil Co.'s No. 2 Bailey well flow 174 bbls. on Friday, which is the actual report of gauger in the field. This well is flowing through the casing and making all pipe line oil. This well was drilled in over three months ago and made 50 bbls. natural but owing to the heavy gas pressure it cut the oil considerably. This was entirely eliminated by drilling it 10 to 12 feet deeper and giving it a shot. No. 3, same farm, is about due for completion, as is John T. Schenk's No. 3 on the Lamb farm, an offset to the Bailey well. The Richland Oil & Gas Co. has erected a derrick over its No. 1 Graham farm, in the same vicinity and will drill it down to the second pay sand and give it a shot, in hopes of landing a well of the Bailey stripe.

Hardin and Shelby Counties, two of the new additions to the southern side of the old Lima Field, failed to report any completions, but have several nearing the pay sand.

In Jackson Township, Sandusky County, near Helena, the North Lima Oil Co.'s No. 12 well, 650 feet from the south line and 150 feet from the east line of the E. Hummell No. 2 Farm, in the northwest quarter of Section 17, pumped 19 bbls. Top of Trenton was struck at 1,266 feet and the oil at 48 feet in. The Jackson Oil Co.'s No. 10, located 800 feet from the north line and 200 feet from the east line of the T. I. Jackson farm, in the northwest quarter of Section 16, same township, pumped 6 bbls. Trenton was found at 1,321 feet and drilled 36 feet in.

East of Toledo, in Jerusalem Township Lucas County, the Ohio Oil Co.'s No. 13 well 750 feet from the north line and 1,950 feet from the west line of the R. H. and M. A. Eck farm, in the southwest quarter of Section 33, pumped 12

(Continued on Page 108)



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Pennsylvania-West Virginia

By D. S. Wakenight

Better than average producers, particularly in West Virginia. West Virginia Consolidated Oil Co. gets 50-bbl. well, Wetzel County; Hope Construction & Refining Co., 40 bbls. Planet Oil Co. has 50-bbl. producer, Perry County, Ohio. Washington County, Pennsylvania, reports 20-bbl. well.

PITTSBURGH, Pa., May 11.—There was very little of importance attached to development work in the eastern fields during the past week. All three divisions furnished a few better than average producers, West Virginia getting more than the usual number of better than average producers. All completions are located in defined territory and of no great importance. Market conditions remained unchanged and the refineries are now getting all the crude they need to meet their requirements. Seven miles west of Pine Grove, Greene district, Wetzel County, the West Virginia Consolidated Oil Co. completed in the Big Injun sand a second test on the Stephen Morgan farm, good for 50 bbls. a day. It is located in old territory. In Roetor district, 1 mile in advance of production, the Hope Construction & Refining Co.'s test on the F. B. Pyles farm is good for 40 bbls. a day in the Gordon sand. On Poca Fork of Little Sandy Creek, Elk district, Kanawha County, the United Fuel Gas Co. got a gasser in the salt sand at a test on the C. E. Halstead farm, good for 3,000,000 feet a day. The same company got a 1,000,000-foot gasser at a test on the May Jarrett farm. The Hope Construction & Refining Co. completed a test important as to location on Pine Creek, Center district, Calhoun County, on the Hattie D. Hathaway farm. It got its production and was shot in the Maxon sand and is estimated to be good for 15 bbls. a day. The well is 3½ miles east of the company's test on the G. B. Howell farm and likely to call out some new work in that locality.

The deep sand territory in southeastern Ohio failed to complete any large wells. The best is the Planet Oil Co.'s No. 4 on the S. B. Dittoe farm, in Section 20, Reading Township, Perry County. The well produced 50 bbls. the first 24 hours after drilled through the Clinton sand. In the southeast quarter of Section 24, Washington Township, Hocking County, the Gordon Oil Co. got a 10 or 15-bbl. pumper when it completed and shot its test on the James Brimner farm. The Empire Gas & Fuel Co. got a gasser in the Clinton sand good for 1,500,000 feet at a second test on the E. E. Connor farm.

Southeastern Ohio

Taken collectively, there is quite a little new work starting in southeastern Ohio, distributed through six or more counties. In Section 22, Richland Township, Fairfield County, the Pure Oil Co. completed No. 3 on the Owen Smith farm good for 15 bbls. a day in the Clinton sand. In Section 9, Rush Creek Township, the Carter Oil Co. started to drill a test on the H. W. Kelsey farm, one-half mile southwest of the company's No. 4 on the Bert F. Seifert farm. In Section 14, Knox Township, Guernsey County, the Ohio Fuel Gas Co. is down 3,249 feet and fishing at a test on the C. C. Clarke farm. In Section 9, the same company is drilling at 3,126 feet on the John C. Wilson farm. In Section 9, Adams Township, the test on the James R. McBurney farm is drilling at 2,500 feet; In Salem Township, Section 17, Tuscarawas County, the Logan Natural Gas Co. is drilling at 1,825 feet on the Adam Cline 92 acres. If nothing is found in the upper sands it will be drilled to the Clinton sand.

In Section 21, Madison Township, Perry County, the Atha Oil Co. has the rig completed for No. 11 on the Melick Brothers farm. In Section 25, Athens Township, Athens County, the Pure Oil Co. started to drill a second test on the Louis Gadnai farm, 600 feet north of the first test. In Alexander Township, Watson and others are rigging up at a test on the Grass farm. In Salt Creek Township, Muskingum County, the Swingle Oil & Gas Co. is drilling a test on the Joseph C. Miller farm. Keith & Co. have a rig completed for a test on the Keith Brothers farm. In Union Township local parties have drilled to a depth of 1,400 feet on the O. C. Evans farm and shut down. The same parties are drilling at 2,900 feet on the J. S. Evans farm. In the same locality, the Eclipse Oil & Gas Co. started to drill a test on the Isaac J. Watson farm and shut down.

Shallow Wells

In Section 36, Olive Township, Noble County, J. F. Haines and others have a light pumper in the 700-foot sand at a second test on the E. O. Davis farm. In Section 1, Jackson Township, Worrell Brothers and others have a 4-bbl. pumper in the Peeker sand at a test on the J. B. Hutcheson farm. In Center Township, J. H. Yerain & Co. have a duster in the Buell Run sand at a test on the Thomas Johnston farm. In Enoch Township, C. D. Harper & Co.'s test on the Francis Hupp farm, and Otto Poling & Co.'s test on the James W. Bryan farm are both dusters in the Buell Run sand. In the same township, C. D. Harper & Co. are due in the sand at a test on the Forrest Moore farm. In Franklin Township, Licking County, W. W. & A. T. Wehrle completed a second test on the Eliza Ewers farm, not good for more than 2 bbls. a day. In Lot 7, same township, the same parties are drilling a test on the James Taylor farm, and No. 6 on the William Smith farm. In Section 19, Enoch Township, Noble County, Albert P. Sheets & Co. have completed No. 5 on the Thomas Hupp farm, dry in the Buell Run sand. In Section 6, same township, C. D. Harper and others completed in the same formation a test on the Forrest Moore farm. It is a gasser.

Fair Gasser in Holmes

In Section 14, Monroe Township, Holmes County, one location east of the Ohio Fuel Gas Co.'s test on the B. F. Uhl farm, the Empire Fuel & Gas Co. completed in the Clinton sand a second test on the E. E. Connor farm. It is a gasser good for 1,500,000 feet. In the Berea grit development in Section 9, Bowling Green Township, Licking County, the Midland Oil Co. moved a drilling machine to a location and started to drill No. 6 on the Homer Cooperrider farm. The Midland Co. has five Berea grit producers on this farm and getting ready to put them to pumping.

In Newton Township, I. J. Denbow started to drill a test on the Jacob Weiss farm. In Lot 9, Hanover Township, the Edward H. Everett Co. is rigging up on the Daniel Lehman farm and has a rig up on the P. C. Phillips farm. In Hopewell Township, the Pure Oil Co. is due in the Clinton sand at a second test on the J. A. McCracken farm. In Section 18, Killbuck Township, Holmes County, the Pure Oil Co. is due in the Clinton sand at a test on the A. W. Schonauer farm.

In Hanover Township, Licking County, M. F. Whitehill & Co. pulled out, plugged and abandoned No. 3 on the J. J. Nethers farm. In Section 27, Bearfield Township, Perry County, John Foutz has started to drill on the Michael Lemity farm. In Monroe Township, Marshall & Marshall are drilling on the Donahue heirs' farm John Holden and others are drilling on the James McDonald farm. All are in shallow territory. In the northeast quarter of Section 37, Pike Township, Perry County, the South Fork Oil & Gas Co. started to drill a Clinton sand test on the W. J. Hillis farm.

In the northwest quarter of Section 14, Washington Township, Hocking County, the Carter Oil Co. completed and shot in the Clinton sand a test on the W. H. Mowery farm. The ensuing 24 hours the well produced 20 bbls. This well is one location north of the Gordon Oil Co.'s test on the W. L. Wagner farm. In Lot 6, Monroe Township, Holmes County, Burtner, Morgan & Stephens completed in the Clinton sand No. 4 on the A. R. Mackey farm and dry.

West Virginia Completions

In West Union district, Doddridge County, the Clifton Oil & Gas Co. completed and shot in the Big Injun sand No. 4 on the Flora Freeman farm and good for 20 bbls. a day. The location is 500 feet east of No. 4 on the same farm. In Central district, the Hope Construction & Refining Co. drilled No. 6 on the H. B. Williams farm through the Big Injun sand, showing for a 6 or 8-bbl. pumper. In the same district, Nay & Williams completed in the same formation a test on the L. F. Williams farm, good for 5 bbls. a day.

Duster in Pleasants County

In Washington district, Pleasants County, W. C. Patterson has a duster in the Cow Run sand at his No. 7 on the E. Hines farm. On White Oak Creek, Walker district, Wood County, the Power Oil Co. has moved a drilling machine to the location for No. 105 on the Volcanic tract. In the same district, R. W. Richards is drilling a test on the S. Hackett farm. In Union district, Dollman & Kingsley are down 1,300 feet at No. 7 on the S. J. West farm. In Central district, Doddridge County, one-half mile northeast of production, the Imperial Oil & Gas Products Co. has the rig completed for a test on the C. E. Ross farm. In the same district, Nay & Dotson have the rig completed and started to drill a test on the J E. Waldo farm, 600 feet south of the Hope Construction & Refining Co.'s No. 8 on the V. O. Ellifritt farm.

On Hewitts Creek, Scott district, Boone County, the South Penn Oil Co. drilled No. 11 on the Yawkey-Freeman tract through the Berea grit. It is a gasser good for 800,000 feet. On the same stream in Logan district, Logan County, the same company has drilled No. 5 on a part of the same lease, 1,200 feet below the Berea grit and found nothing in any formation. It has been abandoned. On the same stream, the same company has rigs completed and started to drill Nos. 6, 8 and 13 on the same lease. On Pigeon Creek, Lee district, Mingo County, the Pure Oil Co. drilled its test on the United Thacker Coal Co.'s property through the Berea grit. They got only a light show of gas in the Berea and will abandon the hole. On the west fork of Twelve Pole Creek, Butler district, Wayne County, 2½ miles east of Wayne postoffice, the Chartiers Oil Co. has the rig completed and started to drill a test on the MacCalfee farm.

Seven miles west of Pine Grove, Greene district, Wetzel County, in old territory, the West Virginia Consolidated Oil Co. has completed a second test on the Stephen Morgan, a ntural producer in the Big Injun sand good for 50 bbls. a day. The total depth of the well is 1,765 feet. At intervals this old territory has been furnishing some better than average producers. In Greene district, Wetzel County, the Silver Hill Oil Co. has drilled its test on the John W. Steele farm through the Gordon sand, good for 18 or 20 bbls. a day. In Paw-Paw district, Marion County, the Owens Bottle & Machine Co. has a gasser in the Big Injun sand on the Dorcn Cunningham farm. In Clay district, Monongalia County, the Hope Construction & Refining Co. drilled a test on the Lewis Tennant farm through the Bayard sand and dry.

In Geary district, Roane County, the Elkins Oil & Gas has a light gasser in the salt sand at a test on the Julia Bent farm. In Reedy district, the Heck Oil Co.'s No. 4 on the O. J. Brown farm is not good for more than 5 bbls. a day in the Berea grit. In the same district, the same company is rigging up at a test on the W. T. George farm. In McElroy district, Tyler County, the Carter Oil Co. is drilling down from the Big Injun to the Gordon sand its old well on the Stoneking heirs' farm.

One mile north of Ellenboro, Clay district, Ritchie County, H. L. Lambert has drilled a test on his own farm through the Big Injun sand good for 3 or 4 bbls. a day. In the same district, the Carter Oil Co.'s test on the L. S. Doak farm is a gasser in the Big Injun sand. In Union district, Wood County, Bowser & Ekas have a gasser in the Berea grit on the U. S. Dye 71 acres. In the Plum Run Field, Williams district, Decker & Smith have a duster in the salt sand at a test on the George Rose farm.

Gassers in Gilmer County

All late completions in Gilmer County are gassers, except one light pumper. In Center district, the Hope Construction & Refining Co. has a 15-bbl. pumper in the Maxon sand at a test on the M. Ayers farm. In the same district, the Valley Oil Co.'s second test on the William Bennett farm is a gasser in the Big Injun sand. In DeKalb district, Clem Morris & Co. have a gasser in the same formation at a test on the Margaret Barker farm.

On White Oak Creek, Walker district, Wood County, the Power Oil Co. drilled No. 104 on the Volcanic tract through the salt sand, not good for more than 2 bbls. a day. In Union district, Ritchie County, Edward D. Lynch has the rig completed for a test on the J. Lowther farm. In Clay district, John Leeton has the rig completed for a test on the C. Lowther farm, and the Southern Oil Co. is starting No. 3 on a part of the same farm. On McFarlan Creek, Murphy district, Darbey & Son have spudded in No. 3 on the William Heaton farm.

Dusters in Ritchie County

On Gillespie run, Grant district, Ritchie County, the Continental Oil & Gas Co. drilled a second test on the W. A. Ridgeway farm through the Squaw sand, dry in this and all upper formation. In Union district, the Carnegie Natural Gas Co. has drilled its second test on the Floyd Goff farm through the Gordon sand, dry in all sands. In Grant district, the Aetna Oil & Gas Co.'s No. 11 on the Ross estate is good for 3 bbls. a day in the Maxon sand.

Near Mole Hill, Clay district, Ritchie County, the Hope Natural Gas Co. has

(Continued on Page 124)

PITCH

Accurately Maintained

7

Times Guaranteed

Rex Chabelco 1030

1 Sprocket fit is maintained by rollers that resist wear.

2 Offset in sidebars will not straighten out and thus destroy pitch.

3 The bushing is unusually durable—no slack will develop there.

4 No play can develop where bushing meets the sidebars.

5 No bent pins to destroy pitch, no brittle pins to snap.

6 Case-hardened pin bearing on case-hardened bushing—no wear in sidebar holes—no change in pitch.

7 Sidebar holes are multiple punched, further assuring pitch accuracy.

ROLLERS are of special analysis steel correctly heat-treated to give maximum strength and toughness and better wearing qualities.

Sidebars are made from open-hearth steel with high carbon content to insure greater strength.

Bushing is case-hardened to give exceptionally hard-wearing surface without affecting the shock-resisting toughness of the interior of the metal.

Rex Chabelco bushings are forced into sidebars and securely locked, thus preventing them from wearing into the sidebar and destroying pitch.

Pins are rolled smooth after forging and then case-hardened and heat-treated to withstand pounding, high-speed operation. The ends are sheared to lock in the sidebars and prevent turning.

Pin has swell under head which is forced into sidebar, thus locking it at both ends and forcing all pin wear to occur in the bushing instead of in the sidebar. This gives greater bearing area and brings together two case-hardened wearing surfaces.

On all drive chains both holes in sidebar are punched simultaneously by a multiple punch, assuring accuracy of pitch and bearing, very important for good chain service.

1000 Keystone Bldg., Houston, Texas
210 So. San Pedro St., Los, Angeles, California

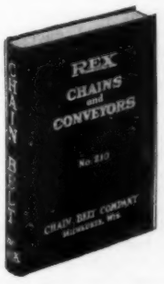
REX CHABELCO

CHAIN BELT COMPANY, *Milwaukee, Wis.*

The vertical strand of chain is Rex Chabelco 1240, developed by the Chain Belt Company for the highly destructive service of the Oil Fields.

It was the first oil well chain to have the notched-out feature since adopted by practically the entire industry.

It is stocked by most Oil Field Supply Dealers, and can also be identified by the word REX on every sidebar.



The Chain Belt No. 210 Catalog and Engineering Data Book shown above consists of 512 pages. It lists in detail all information for the ordering and use of Rex Chain, Conveyors and Transmission Machinery.

Chain Belt Company
719 Park Street
Milwaukee, Wis.

Please send me a sample of Rex Chabelco Chain.

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Government Tests Domestic Burners

Experiments of Far Reaching Importance to Petroleum Industry nearing Completion in Washington

By Charles E. Kern

WASHINGTON, D. C., May 4.—At last there is in operation in this city a testing plant for domestic oil burners. The failure of oil burners for domestic purposes to meet popular approval has long been discussed in the industry. At one time, the American Petroleum Institute considered the establishment of a plant like this in cooperation with the United State Bureau of Mines, but for some reason, the necessary funds were not forthcoming. The failure of the institute to back up this and many other projects in the nature of research in the field of petroleum was one of the great disappointments of Dr. Van H. Manning, formerly director of the United States Bureau of Mines, and later an official of the institute.

While others were discussing the advisability of some instrumentality for ascertaining the relative merits of domestic oil burners, the Department of Agriculture took up the subject, because of an insistent demand on the part of farmers for information as to the relative merits of these burners in the heating of their homes and also on the relative efficiency of oil and coal as fuel for that purpose. The work was undertaken purely for the assistance of the farmer, and Ara M. Daniels, a heating engineer of high reputation, was placed in charge of the investigation under the general direction of S. H. McCrory, in charge of agricultural engineering in the Department of Agriculture.

To Enlighten Farmers

The bureau, under which the investigation is being conducted, is known as the Bureau of Home Economics, which found itself unable to find any adequate information to permit the answering of inquiries received from farmers about the heating of their homes in a satisfactory manner. There was at that time no other bureau that could do this work and could obtain the backing in the form of necessary appropriations to carry it on. The Bureau of Mines had discussed this project, and that bureau was not only eminently capable by ready to undertake it, but there were no funds that could be diverted to that purpose.

The work has been done to a very large extent with the cooperation of the American Radiator Co., and the manufacturers of various domestic oil heaters. The bureau was given a building at the Arlington Experimental Farm, located in Virginia, opposite the City of Washington, and the necessary investigators were detailed to conduct the work. There are installed there four American radiator hot water boilers, in which oil burners are installed, and very thorough records are kept to determine the performance of each. Two are four-section boilers, one a five-section, and one a six-section. The Arco type of boiler, 25 inches in diameter, is being used.

The burners now being tested are those that are being regularly sold by manufacturers. The burners for testing purposes are furnished by the manufacturers. When the work is done, tests will have been made on ten or twelve burners of the gravity type and six or eight of the forced feed type. Enough tests are made on each burner to develop the conditions under which it can be operated to the best advantage.

Effect on Manufacturers

The manufacturers being able to understand how their burners are standing up, have already begun to adopt slight variations in their designs, which is conclusive evidence of the practical effect being attained in this experimental work. All of this effort has gone along so quietly, that the oil industry knows practically nothing of it, but by the first of June the work will have been completed by Mr. Daniels. It is hoped to have the report out and properly published some time during the Fall, but this depends largely upon the availability of funds to back up the enterprise.

Here is an excellent opportunity for public-spirited men in the oil industry to put their shoulders to the wheel and put this enterprise on a sound basis. They probably can assist by showing their interest in letters sent to the Secretary of Agriculture.

Enough tests of coal as a fuel in competition with oil have been made to give some general comparison between these two fuels. The fact is generally recognized that any absolute comparison between oil and coal as a fuel is impossible to make because of elements of convenience. It would be about as difficult for any investigation to determine whether oil or coal is superior for heating purposes as to determine whether electricity or gas or illuminating oil or candles are superior for lighting purposes based on candle power and the cost of producing it. For that reason, those who look to this report as any determination in the controversy waged by advocates of oil and coal in respect to heating efficiency, are doomed to disappointment.

In fact, when this report is completed and given to the public, it will not be possible for the layman to say that oil or coal is superior, or that one or the other of these numerous domestic oil burners is superior. The records of tests of various kinds will be given with technical accuracy. The manufacturer of each burner may analyze these records and he can formulate his own argument as to the superiority of his own product. The Agriculture Department, like all the bureaus of the Government, endeavors to carry on its investigations without playing the role of umpire, which would require it to say which is best and to grade different articles in a definite form as a guide to purchasers. The effect of the investigation, however, will be understood by all the manufacturers of oil burners and probably will result in some sort of variation in their designs.

Technical Results

In a technical way, this investigation will show the relative merits of the several kinds of domestic oil burners that have been tested, and particularly the efficiency of different types of burners under varying conditions of draft and with different kinds of oil. It will also try to answer the question that farmers have been asking the department as to whether their oil burners are suitable for the purposes to which they are put so that they may avoid many difficulties under which they have suffered in the past. All the diplomacy of which these investigators are capable will be used to avoid offending any one, and the types of burners will be commented on rather than their names. The practical result of all of this comparative testing probably will operate to improve all burners on the market, so that as in the case of automobiles, there will be less difference in actual performance than there is in appearance.

Three kinds of oils are being used in these tests. One has been made with kerosene, one with distillate, and a third with fuel oil. When these tests have been made public, it may be possible for those who use these domestic fuel burners to ascertain whether it is cheaper to use one or the other of these products of oil. All of the oil fuel has been carefully analyzed so that the heat units of each will be stated in connection with each test, giving a measure of heat losses at different points in the process of use in the furnace, so that it will be possible to understand quite clearly just where and how the heat is utilized.

A most interesting question now arises and must be considered before this series of experiments is brought to a close. It is whether the tests ow these 18 or 20 burners now on the market is to conclude all efforts of the Bureau of Home Economics to ascertain and to promote the distribution of the best types of oil burners, or whether these experiments are to continue and prove a constant encouragement to the inventor to improve on present models. There is little doubt that the American Radiator Co. will be willing to continue to supply boilers for these experiments, because that company is enormously interested in the development of these various types of oil burners, although it does not itself manufacture or sell them.

All persons interested in this development of a thoroughly efficient oil burner will have a chance to exert influence to keep this experimental work going, because the possibility of continuing it during the next fiscal year will depend very largely upon the availability of funds to pay the comparatively small but necessary expense to keep it going. There is very general concurrence in the opinion that such an experimental plant should be a permanent institution here, at least until a domestic oil burner is produced that can command the approval of heating engineers and the oil industry itself as being highly efficient.

OPEN DOOR FOR OIL OPERATORS IN MESOPOTAMIAN CONCESSION

The first statement of an official nature regarding the American group formed to participate in petroleum exploration in Mesopotamia has just been issued by the Standard Oil Co. (New Jersey). The American group holds a 25 per cent interest in the Turkish Petroleum Co., Ltd., and comprises the following companies, as previously exclusively announced in The Oil and Gas Journal: Mexican Petroleum Co., Gulf Refining Co., Atlantic Refining Co., Sinclair Consolidated Oil Co., Standard Oil Co. of New York and Standard Oil Co. (New Jersey).

American interest in the Irak concession marks a definite change of policy on the part of Great Britain in favor of the open door, and for this reason great importance is attacked to this development. Another important aspect is the fact that this marks the first time that American companies have cooperated in foreign oil exploitation.

A significant feature of the concession held by the Turkish Petroleum Co., as revealed in the statement just issued, is a sub-leasing plan whereby large areas are thrown open to corporations and nationals of all countries. The statement which is contained in the forthcoming issue of The Lamp follows in full:

Scope of Concession

Wide-spread interest has been manifested over the publication of news that there was recently concluded at the ancient City of Bagdad an agreement between the Government of Iraq and the Turkish Petroleum Co., Ltd., which provides for extensive exploration and drilling in a large area in Mesopotamia. This interest is explained by the fact that after negotiations running through several years an American group of six petroleum companies has been allowed to take a 25 per cent share in this very important undertaking.

Originally a Turkish province of Asia Minor, since the Armistic Iraq has been constituted an independent kingdom under a British mandate. The actual present area of this mandatory State is 143,250 square miles, made up as follows: Province of Bagdad, 54,540 square miles; Province of Mosul, 35,130 square miles; Province of Busrah, 53,580 square miles, with a population in 1920 of 2,849,282, of whom 2,650,000 are Mohammedans. For something more than 20 years the reported petroleum resources of this country have in varying degree been in the public eye on account of the efforts made by various nations to obtain development rights.

With the signature at Bagdad of an oil convention to run for 75 years from March 14, 1925, by the Government of Iraq and the Turkish Petroleum Co., Ltd., the first effective step toward the possible development of oil production in Mesopotamia has been taken.

The Turkish Petroleum Co., Ltd., is composed of the Anglo Persian Oil Co., the Royal Dutch-Shell Co., the French group and the American group in equal parts, but with a 10 per cent oil royalty payable by the Turkish Petroleum Co., Ltd., to the Anglo Persian group in return for the halving of its original share of 50 per cent in the Turkish Petroleum Co., Ltd., in order to admit of the American group's entry on equal terms. The American group is constituted as follows:

Mexican Petroleum Co.
Gulf Refining Co.
Atlantic Refining Co.
Sinclair Consolidated Oil Co.
Standard Oil Co. of New York.
Standard Oil Co. of New Jersey.

The actual lease covers the Kingdom of Iraq (except the Province of Busrah) and any territorial acquisitions resulting from future frontier adjustments. Out of the 90,000 square miles comprising the concession area, the Turkish Petroleum Co., Ltd., will be permitted to select 192 square miles in 24 rectangular block of 8 square miles each.

Sub-Leasing Plan

Development will require very considerable outlay of time and money by those groups constituting the Turkish Petroleum Co., Ltd., and it has to be borne in mind that "the proof of the pudding is in the eating" and the Mesopotamian oil fields have yet to justify the claims made for their potentialities. It is unproven territory.

Most important from an international view is the subleasing plan incorporated in the concession whereby the whole of the area embraced by this convention (with the exception of the 24 plots already referred to) is thrown open to corporations and nationals of all countries.

In order to make clear the far-reaching character and vital importance of

(Continued on Page 102)

NATURAL GAS DEVELOPMENTS

OHIO GAS COMPANIES IN NEW CONSOLIDATION

TOLEDO, Ohio, May 9—Consolidation of gas properties in and around Lima, Ohio, will be effected with the proceeds derived from the sale to Halsey, Stuart & Co., Inc., of $1,000,000 first and refunding 6 per cent bonds, Series A, by the West Ohio Gas Co., incorporated last October.

The proceeds derived from the sale of the bonds will be used to acquire the properties of constituent companies which heretofore have been engaged in supplying both natural and artificial gas to Lima, Ohio, and natural gas to the neighboring towns of Criderville, Wapakoneta, St. Marys and Celina. These systems, serving a total population of approximately 75,000, have been interconnected and brought under unified operation, which makes possible the distribution of an economical mixture of natural and artificial gas.

The company's carburetted water gas manufacturing plant, with a daily generating capacity of 4,000,000 feet, is capable of supplying the demand of all customers of the company. Such natural gas as is used is purchased under satisfactory terms. Approximately 80 miles of high pressure distribution mains and 170 miles of low pressure mains are owned by the company, as well as tank storage and other auxiliary facilities.

The company will be under the management of the Midland Utilities Co. through ownership or control of all the company's outstanding common stock. Samuel Insull is chairman of the board of the new company.

GAS RATE INCREASE IS ASKED IN DALLAS

DALLAS, Tex., May 9.—Dallas Gas Co. has given notice to the city that its contract with Lone Star Gas Co. for natural gas expires June 8, and asks that an increase of 11 per cent in its rates be granted. The company states that under the present contract with the Lone Star Gas Co., all leakage is borne by the latter, whereas under the proposed new contract it will be borne by the Dallas Gas Co.

"During 1924, the best year of the company, after allowing depreciation and accident reserve, net earning on property value amounted to less than 5 per cent," the company states. This is based upon property value provided for in the franchise, which now amounts to $3,966,851. In passing, it should be observed that if a valuation of its property should be made with values of today, it would be in excess of $6,000,000, and on such value the return earned would be very considerably less than even 3 per cent.

"It is manifest that on account of being required to pay more for gas under the new proposed contract with the Lone Star Gas Co., and also on account of the condition of the company's reserves and earnings, it will be necessary for this company under its franchise to increase its rates to its customers."

NEW GAS COMPANIES

OKLAHOMA CITY, Okla., May 9.—Validity of the statute which forbids the chartering of new gas companies without a stipulation that they will not pipe natural gas out of the State, was upheld by the State Supreme Court.

The court reversed an order by the district court of Oklahoma County granting a writ of mandamus by the proposed Industrial Fuel Co. against R. A. Sneed secretary of State, to compel him to grant them a charter without this stipulation. The charter was sought by W. H. Tippet, B. Z. Tippet and George H. Henshaw, all of Oklahoma City.

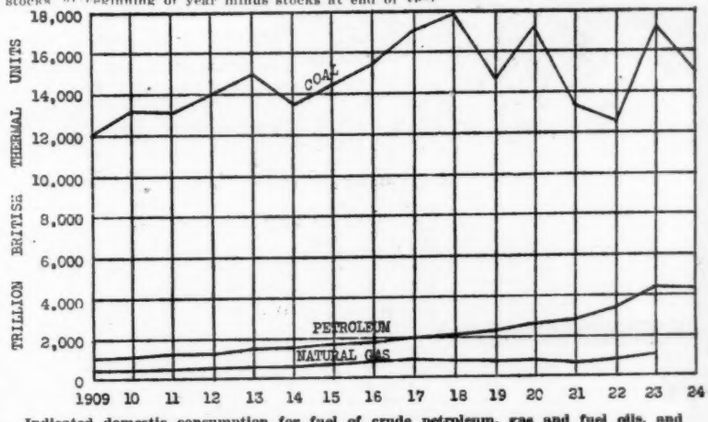
COMPARISON OF THE FUEL VALUE OF COAL, PETROLEUM AND NATURAL GAS

Comparison of the fuel value of coal, petroleum and natural gas produced in the United States from 1909 to 1924 is shown in the diagram, which emphasizes the dominating position of coal and the increased importance in recent years of the hydrocarbons. The data for 1924 are preliminary. Of the total energy supplied by mineral fuels produced in the United States in 1923 coal yielded 76 per cent, petroleum 19 per cent and natural gas 5 per cent, whereas in 1913 coal yielded 88 per cent of the total, petroleum 9 per cent and gas 3 per cent.

Statistics showing the details of the extent to which oil and gas compete directly with coal are not available, but rough approximations are given in the table, which shows the indicated consumption for fuel in the past few years of crude petroleum, gas and fuel oils and natural gas. The pronounced change in the trend of production of coal in the years prior to 1918 and since then is striking. Prior to 1918 the normal rate of increase in the production of soft coal averaged almost 17,000,000 tons a year, whereas since the war the coal market has ceased to expand. The production of the hydrocarbons, on the other hand, in recent years has greatly increased.

	1919	1920	1921	1922	1923	1924*
1. Indicated domestic consumption of crude petroleum a/	423	522	521	585	715	742
2. Crude oil run to refinery stills	362	434	443	501	581	644
3. Indicated consumption of crude petroleum for fuel (including losses)	61	88	78	84	134	98
4. Indicated consumption of gas and fuel oils (Bureau of Mines)	164	186	196	240	261	293
5. Consumption of crude petroleum and gas and fuel oils for fuel	225	274	274	324	395	391
6. Energy equivalent of No. 5	1,383	1,681	1,683	1,992	2,422	2,404
7. Approximate equivalent in coal of No. 5	53	64	64	76	92	92
8. Energy equivalent of natural gas consumed for fuel (gas used in making carbon black not included)	748	804	657	762	967	
9. Approximate equivalent in coal of natural gas in No. 8	29	31	25	29	37	
10. Percentage of the annual production of coal in the U. S. for Nos. 6 and 8	15	14	18	22	20	

*Preliminary. a/Production plus imports minus exports plus stocks, including refinery stocks at beginning of year minus stocks at end of year.



Indicated domestic consumption for fuel of crude petroleum, gas and fuel oils, and natural gas, 1919-1924, contrasted with the equivalent quantity of coal.*

PHILADELPHIA TO TRY GAS OR OIL BURNER

PHILADELPHIA, Pa., May 9.—Combined use of gas and oil for heating homes will be made possible soon, it was announced in the annual report of the United Gas Improvement Co.

Samuel T. Bodine, president said studies are being made by the research department along such lines. These point to the joint use of gas carrying the uniform load and oil carrying the peak loads.

A burner has been devised, it was said, which burns either gas or fuel oil. By an automatic thermostat arrangement the two are used alternately as the demands of the weather require. When the temperature is mild and little heat is required, the gas is turned on and the oil turned off. When the temperature drops below freezing and a hotter fire is needed to keep the house comfortable, the gas is shut off and the oil is turned on. The object of the arrangement, of course, is to prevent a "peak" in the gas company's service during the winter months, which necessitate a huge equipment installed at heavy outlay, for use during the winter, but idle in summer.

The burners have been used already with success, the company announced. That the use of gas for heating boilers in steam and hot water plants in residences is one of the main fields which the gas company industry must seek is the belief of gas company officials because of the rapid growth in the use of electricity.

NEW GAS OPERATING UNIT

With the expansion in the natural gas utility business of the Cities Service Co., through the acquisition of the Kansas City, Wichita, Hutchinson, Newton and Pittsburg, Kans., properties, a new operating-managing unit was established as of May 1, with B. C. Adams in charge, with headquarters in Kansas City, Mo. This does not affect the management of the natural gas division of the Empire companies. The natural gas division will continue to manage and operate all of the gas production and transportation facilities of the Empire companies through the Bartlesville office, under the direction of H. L. Montgomery.

NEW CINCINNATI GAS RATE

CINCINNATI, Ohio, May 9.—The Cincinnati City Council has fixed new rates for five years for natural gas in that city, served by the Columbia Gas & Electric System. The rates will, it is said, add about $1,300,000 gross a year to the company's earnings. The new schedule starts at a maximum of 75 cents a thousand feet and slides down to a minimum of 50 cents after the first 5,000 feet.

DEMONSTRATION PLANT FOR NEW GAS PROCESS

An offer to install a demonstration plant in Philadelphia for the manufacture of gas by a new process has been made by the Gas Bond & Share Co. of America, incorporated in Delaware, with offices at 29 Broadway, New York. Col. E. E. Garrison, of Charles R. Flint & Co., Inc., New York, is president. With him on the board of directors are Orestes U. Bean, inventor of the process and of the Bunsen furnace; John C. Collingwood, of Harvey Fisk & Sons; George B. Gifford, formerly chief engineer of the Standard Oil Co., and now consulting engineer and petroleum technologist; W. D. Huntington, vice president of the Davison Chemical Co., and Vincent G. Shinkle, petroleum technologist.

The new process has been successfully tried out at the Long Island Lighting Co.'s plant at West Babylon L. I.

As already reported in The Oil and Gas Journal, President Garrison said gas of 900 to 1,000 B. T. U.'s could be manufactured by rehydrogenation of heavy carbon oils, from the residue of oil refineries or from tar. This gas would be about twice the present B. T. U. standard in Philadelphia.

HIGHER GAS RATES IN SOUTHWEST FORECAST

Applications pending in Arkansas and Texas for increases in domestic rates for natural gas, and court proceedings being carried on in Oklahoma touching the same subject forecast a movement that probably will become general over the Southwest for larger returns from the sale of natural gas. Behind the major movements are demands of pipe line companies for increased prices at gates where gas is delivered to local distributing concerns.

The Twin City Pipe Line Co. at Fort Smith, Ark., has applied to the City Commission for an increase of 9.25 cents in charges for gas delivered to the Fort Smith Light & Traction Co. The Dallas (Texas) Gas Co. has applied to the City Commission for an increase of 10 to 11 per cent in charges to local consumers.

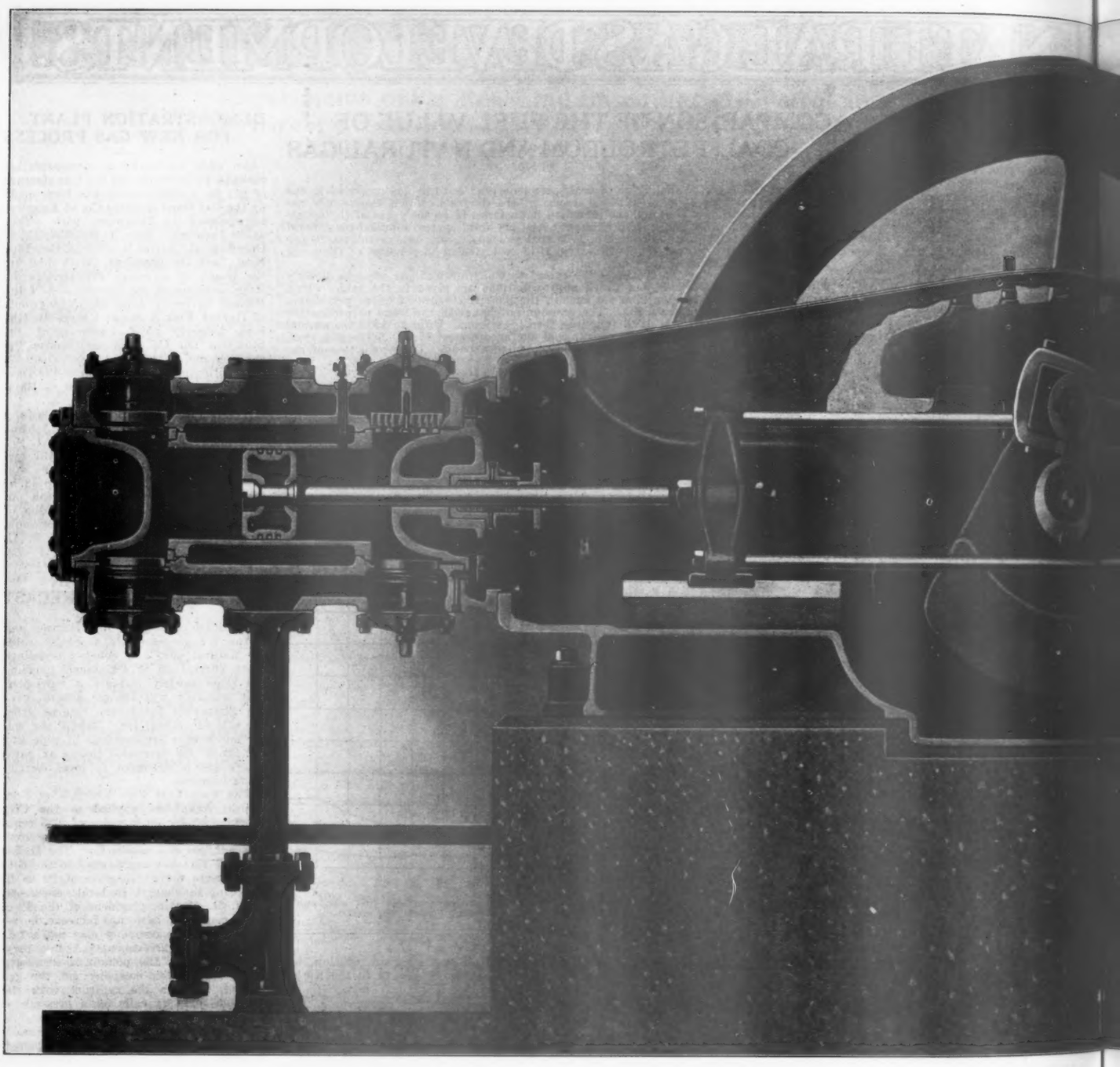
W. R. Martin, president of the Twin City company, says an increase is required that the company may net a fair return on its investment. A line pressure of 140 to 160 pounds is necessary that the traction company get the gas needed, whereas the contract with the traction company calls for a pressure of 25 pounds.

"The character of service necessary for us to render the traction company," he says, "is not covered by its contract for gas. If we gave only the service which the contract calls for, the people would suffer in winter * * * The present price does not cover the actual cost to us of the gas delivered."

Under a new contract effective June 9, the Lone Star Gas Co. will charge the Dallas company 40 cents per 1,000 feet at the gate. It provides that the Dallas company shall bear a leakage burden not hitherto borne. The Dallas company in its application says that the increased cost to it under this contract will be $97,000 a year plus $3,600 a year for additional labor at the measuring stations.

COMPLETE BIG GAS WELL

SHREVEPORT, La., May 9.—The largest gas well yet completed in the Blossom sand in the Waskom district, was brought in by Ford, Thompson & Linde on the Abney lease, 1½ miles north of Waskom. The well was completed at 1,950 feet, 20 feet in the pay, and made 20,000,000 feet of gas. It will be connected up with the Magnolia Gas Co.'s line.



The New Refined Cooper Gas E

For six years now the Cooper 160 B. H. P. four-cycle gas engine, with direct connected compressors, has set the standard for reliability and low cost operation. Company officials have liked it because it has run twenty-four hours a day with very few interruptions—such operation has meant greater production with satisfactory profits.

Operators have liked it because of its complete accessibility and freedom from trouble. They have all been proud of their Cooper engines because it has always been easy to make a good

THE C. & G. COOPER COMPANY

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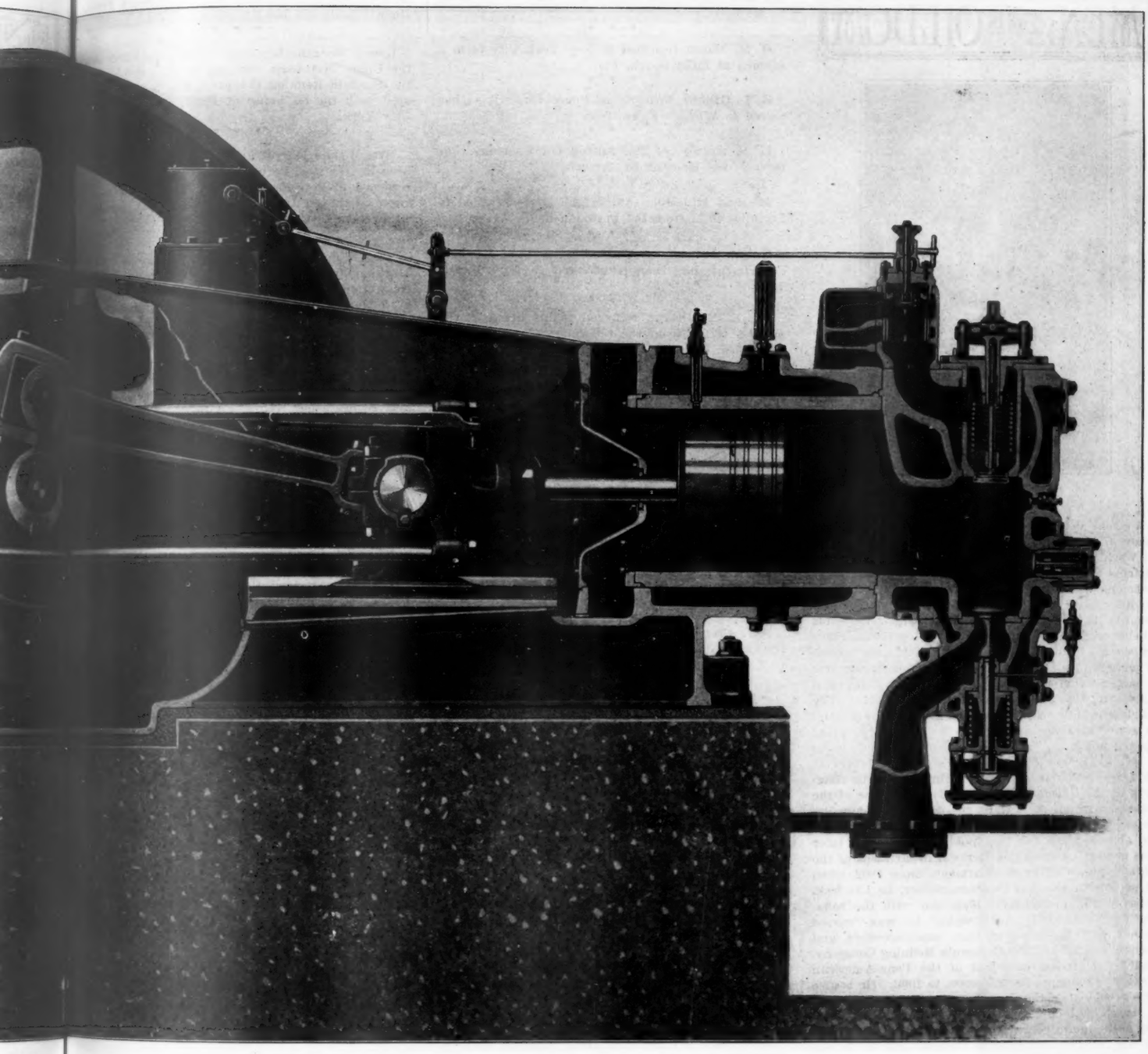


Gas Engine Driven Compressor

on with showing in a Cooper equipped station. Yet the more confidential have expressed one desire—"Give us a better looking crank case cover, if you can do it without sacrificing accessibility." We have done just that, and while doing it we have added certain other refinements, which better the appearance and will increase its years of service.

omplete They ines be- a good

Fundamentally, it is the same time tested Cooper engine, as you will recognize, but built even more sturdy and more beautiful. Write for complete specifications.

MOUNT VERNON, OHIO

., LOS ANGELES, CALIFORNIA 504 KENNEDY BLDG., TULSA, OKLAHOMA

MEN KNOWN IN OILDOM

Charles L. Suhr

A great deal of credit for the place which the Pennzoil Company today holds in the affairs of the oil world is due to the hard work of its president, Charles L. Suhr, and his ability to make the right decisions when questions of great account come up. To his ability as a refiner and his wonderful personality is due the high position which he holds whenever groups of refiners meet together. Since he became head of the concerns which were recently merged into the Pennzoil Company it has become a factor of great importance in the refining and marketing of pure Pennsylvania products. The lubricating oils which it makes are sold from coast to coast and new territory is constantly being opened up.

Mr. Suhr was born in Oil City, Pa., March 30, 1877, his father being Henry Suhr, one of the founders of the Germania Refining Company, one of the interests which went into the Penn-American Refining Company and later the Pennzoil Company. He attended the Oil City public schools and later was graduated from the chemical department of the Philadelphia College of Pharmacy. Since 1892, when he secured a position as stenographer, he has been actively and prominently identified with the refining business. From stenographer he was "moved higher up," becoming in turn superintendent and manager in 1905 of the Germania Refining Company, and being elected president of the Penn-American Refining Company, its successor, in 1906. He is also vice president of the British American Oil Company.

Mr. Suhr finds great pleasure in hunting and fishing as his main recreations. He makes yearly trips to fine fishing locations in Canada and he is the owner of a splendid cottage on Sugar Lake, not far from his home in Oil City, where black bass are said to be abundant.

Mr. Suhr is prominent in club affairs in the Oil City district and is a 32nd degree Mason and a Knight Templar.

He was married in 1901 to Kate A. Wilkins. They are the parents of two sons, Henry and Charles, who are students at Yale University.

PERSONAL PARAGRAPHS

Ralp Bennett, of Petrolia, Ont., has returned from Peru.

* * *

Lyman E. Scott left Cookeville, Tenn., for his home in Toledo, Ohio.

* * *

Thomas Ivinson, of London, Ont., has returned from the Venezuela fields.

* * *

J. C. Wilson, of the Texas Producing Company, has been transferred from Craig, Colo., to Carlsbad, N. M.

* * *

O. M. Mason returned to New York City from a sojourn at Palm Beach, Fla.

* * *

G. L. Grubbs, formerly of Ponca City, Okla., has moved to Wichita Falls, Tex.

* * *

H. S. Autrey, of the Autrey Oil Company, has moved from Houston to Shreveport.

* * *

Mr. and Mrs. John Sutherland have returned to Petrolia, Ont., from the Peruvian fields.

* * *

Gillette Hill, of the Waite Phillips Company land department, has been transferred to Fort Worth, Tex.

* * *

Joe E. Meyer has returned to his home in Okmulgee, Okla., from the Colorado School of Mines at Golden, Colo.

* * *

F. L. Kelley, representative at Houston, Tex., of the William S. Barnickel Company, was a Tulsa visitor last week.

* * *

John Emerson, of the Prairie Oil & Gas Company, has left for New York City, where he will undergo medical treatment.

* * *

Ralph C. Steinman, of the Sinclair Crude Oil Purchasing Company, has completed an inspection trip of the Smackover Field.

* * *

E. H. Moore, president of the Independent Oil & Gas Company, of Okmulgee, Okla., has just returned from a business trip to the East.

* * *

S. L. Cromwell, president of the New York Stock Exchange, has been visiting his son, S. L. Cromwell, Jr., in the El Dorado Field.

* * *

John H. Thacher, oil producer and author, has returned to Kansas City after a few weeks spent at his properties in Okmulgee, Okla.

* * *

Charles I. O'Neill, secretary of the Okmulgee district Oil & Gas Association, made a tour of the oil fields in the south end of the association's territory.

* * *

Edward G. Sievers, of Washington, D. C., valuation engineer with the Bureau of Internal Revenue, was a visitor in the Oklahoma fields the past week.

* * *

J. W. McCullouch, former general manager of the Independent Oil & Gas Company of Okmulgee, and now an individual operator, spent the week-end in Tulsa.

* * *

Keith Clevenger, of the Empire Companies, is making a trip through Texas. He addressed the Southwestern Public Health Association at Houston on May 5.

* * *

E. W. McCrary and C. E. Hane, formerly with the Tidal Oil Company, are now associated in a business of their own with offices in the Mid-Continent Building, Tulsa.

* * *

Dr. W. R. Dugan, of Somerset, Pa., formerly located at Casper, Wyo., where he was interested with eastern people in productive leases at Salt Creek, is touring the Rocky Mountain oil fields.

* * *

Earl W. Sinclair, chairmon of the board of the Sinclair Consolidated Oil Companies, was a visitor in Tulsa for a few days to confer with the Mid-Continent officials of the various Sinclair concerns.

* * *

E. E. Kirkpatrick, head of T. B. Slick's land department, has returned from a week's visit in Brownwood, Texas. Jim Hoffman, general superintendent for T. B. Slick, was a Tulsa visitor last week.

* * *

The appointment of R. R. Templeton to be division superintendent, Orange division, effective May 1, was recently announced by Frank F. Hill, manager of field operations of Union Oil Company of California. Mr. Templeton's activities will extend to the Brea-Olinda, Richfield and Huntington Beach Fields. He will maintain headquarters at Brea.

* * *

Byron Morgan, for many years connected with the Union Petroleum Company of Philadelphia and the Sinclair Refining Company, has become associated with the oil house of Pigot, Sayre Company, New York.

* * *

Mrs. Wynne Merrill and two children, who have been in Negritos, Peru, for a couple of years, have returned to Petrolia, Ont. Mr. Merrill, who is engaged with the International Petroleum Company, will return to Canada about June 1.

* * *

W. T. Funk, of Denver, J. A. Veasey and E. N. Markham, of Tulsa, were in Casper several days in connection with legal matters. Mr. Funk is manager of western operations, Mr. Veasey is general counsel and Mr. Markham is geologist for the Carter Oil Company.

* * *

J. A. Baar, of Portland, Ore., member of the Hydraulic engineering firm of Baar & Cunningham, arrived in Casper Wednesday night on business connected with the Intermountain Water & Power Company. Mr. Baar was the construction engineer in charge of the laying of the company's line from Tisdale to Salt Creek and Teapot.

* * *

The mooted oil field at Kotoku, in Westland, South Island, New Zealand, has been reported on by Frederick G. Clapp, who regards it as decidedly unfavorable for oil or gas in commercial quantity. While in Westland, Mr. Clapp visited some of the glaciers of the southern Alps. He has returned to the North Island, where his clients have important interests.

* * *

Dick Miller, of the Miller Tank Company, has returned to Casper from California, where he has decided to locate in Los Angeles and engage in the real estate business. He will close out his business in Casper with the exception of the Columbian tank agency, which will carry on under the same name and under the management of John W. Monaghan.

* * *

The Sullivan Machinery Company announces the appointment of Earl E. Miller as manager of its El Paso, Texas, branch office, succeeding R. S. Weiner, who is transferred to the general office in Chicago. Mr. Miller's experience of more than 13 years with this company, at its offices at Denver, Lima, Peru, and Paris, France, will enable him to serve Sullivan customers in the southwest and in northern Mexico, very effectively.

* * *

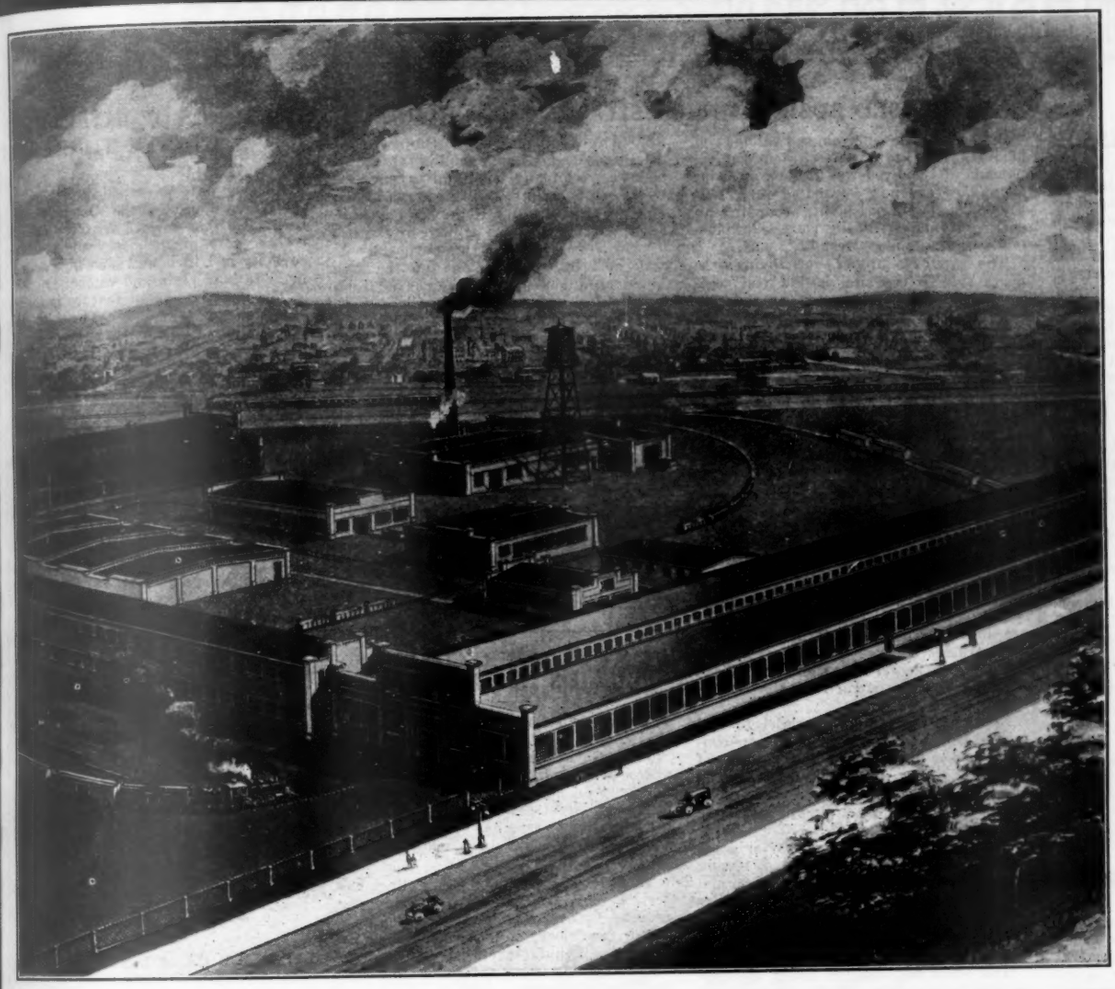
A new supply concern called the Peerless Supply Company has been formed with headquarters at 321 West Second Street, Tulsa, Okla. W. H. McKissick, formerly of the Dunn Manufacturing Company, is president, and E. G. Blaylock, formerly of the International Supply Company, is vice president. E. A. Shaw, former vice president and purchasing agent of the International Supply Company, is secretary-treasurer of the Peerless Company.

* * *

L. S. Wescoat, vice president and treasurer of the Southwestern Gas & Electric Company, of Shreveport, has resigned to accept a position at Columbus, Ohio, with the Pure Oil Company. During Mr. Wescoat's association here, the Southwestern has enjoyed an unprecedented growth, an excellent organization has been built up, and the company has extensively developed its holdings in various gas areas. Mr. Wescoat has served as president of the Shreveport Chamber of Commerce since January, 1924.

* * *

Four executives of the Southwestern Gas & Electric Company and assistants represented Shreveport at the annual meeting of the Southwestern Gas Association in session at Houston, Tex. The party included Judge L. D. Wells, superintendent of the Caddo division of the Bethany Oil & Gas Company, and Virgil Sipe, his assistant; F. C. Armbruster, superintendent of the Shreveport division, and W. H. Douglas, chief clerk; N. P. Heath, chief engineer, and Mrs. Heath, and James E. Dykes, assistant purchasing agent, and Mrs. Dykes.



Western Texas Fields

this with the usual steam boiler which will consume not less than 50,000 feet per day.

More and more, operators are turning to this simple, speedy and economical method of drilling; with 38 wells now drilling in Western Texas and New Mexico alone, using Clark Gas Drilling Engines, it is safe to say that the day of drilling with gas engines is here.

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114

S ENGINES

EQUIPMENT AND SUPPLIES

NEW ANGLE TYPE IN PORTABLE COMPRESSOR

One of the machines which attracted much attention at the Good Roads Show at Chicago in January was the Sullivan 220-foot portable air compressor. Built in response to increasing demand for portable compressors of larger capacity, it embodies interesting features.

The same size compressor cylinders have been utilized as in the 110-foot Sullivan portable, 5½-inch diameter by 5-inch stroke, single acting, but there are four, and instead of being arranged in a line vertically, they are set in pairs, each pair being at right angles with the other, forming a "V".

The 90-degree arrangement of the pairs of cylinders provides a counter-balancing effect, similar to that in the Sullivan angle compound compressors of the stationary pattern. This balancing, it is understood, secures a marked reduction in vibration.

This compressor employs standard Sullivan "wafer" valves, providing short lifts, but wide port openings, and excellent efficiencies. The general design follows the WK-312, 110-foot compressor. All moving parts run in oil on the splash system; 43 horsepower is required to drive the compressor at its full rated speed of 800 revolutions per minute and the engine is described as having abundant reserve capacity.

This compressor, it is added, will operate two or three rock drills, three or four concrete breakers or tampers, seven to nine riveters or clay spaders.

NEW MODEL TRUCK IS PLACED ON THE MARKET

A new model 1½-ton truck has been announced by the General Motors Truck Co. This is the first time General Motors has made a truck of this carrying capacity and it now has a complete line to handle rated loads from 1 to 15 tons.

The new model contains all of the advanced engineering improvements incorporated in the improved one-ton truck announced recently. These include four-wheel brakes, three-point engine suspension cushioned to eliminate noise and vibration, newly designed axles, compact, easily accessible transmission and the steering arrangements and controls so designed to give the ultimate in driver comfort.

The new model of 1½-ton capacity is designed to fill a rapidly growing field which calls for a fast, mobile motor truck capable of hauling loads larger than can be safely handled by a one-ton vehicle. In fact it meets that large demand for a truck in between the light and heavy duty classes.

GETS BIG PUMP ORDER

OIL CITY, Pa., May 9.—The National Transit Pump & Machine Co. of this city has received another big pump order, the second in recent weeks to be booked through the large local shops. The latest order is for 18 pumps of the California type which are to be used on the new pipe line which the Standard Oil Co. of Louisiana is to lay from the Smackover Field in Arkansas to the Mississippi River, in connection with the barge line which runs to New Orleans. The laying of this line, it is understood, calls for the expenditure of $1,000,000. It will be about 100 miles long and its capacity will be between 15,000 and 20,000 bbls. daily.

The pumps which have been ordered through the local concern are to be manufactured in about 30 days, the order being a rush one. The California pump is of the duplex compound type.

INCREASED BUSINESS NECESSITATES BIG BUILDING

A constantly increasing volume of business has again necessitated the expansion of the Broderick & Bascom Rope Co. They are now housed in their new $1,000,000 fire proof plant, occupying an entire city block in the so-called industrial section of northwest St. Louis.

The factory proper, occupying the north side of the site, is 142 feet wide by 494 feet long. Foundations are concrete to support the heavy "laying up" and "stranding" machinery. The walls

are brick, floor and roof are concrete. Steel trusses support the roof. Daylight floods every floor, with monitor skylight and daylight construction the entire length of the building.

South of the factory, parallel to and separated from it by a 20-foot open concrete space, is another building unit, 84 feet in width by 494 feet in length. The eastern end is of two-story construction, the second floor being occupied by the company's factory office. The lower floor comprises the warehouses for wire, finished rope, the spooling and testing department, a complete machine shop and blacksmith shop, engine room and boiler house. This building is also brick, with concrete roof and floors and steel trusses.

The boiler house has a power capacity of 900 horsepower. Machine shop and blacksmith shop are complete in every respect. Here, all of the wire rope machinery used in the plant is built and maintained. Wire warehouse, with special bins provided, has a storing capacity of 8,000,000 pounds of wire. The entire lay-out is a one-way proposition. Starting with the loading and unloading platform, wire is unloaded and weighed and tested and put in specially constructed bins. From the bins, it is staken to the spooling room, immediately adjoining, and wound up on spools; then transported across the open concrete passage-way by electric power-driven lift trucks, to the machines in which the wire is to be made up into strands; after stranding process has been accomplished, strands are put into closing machines, conveniently near, and laid up into finished rope and placed in warehouse with an electric truck specially designed for this work. This constitutes a movement in which there is no backward step whatever, thereby facilitating the output with increased economy.

Three smaller buildings occupy the south side of the site. These are the core house, carpenter shop (in which building all wire rope spools are made), and garage.

The plant was designed by E. P. Frederick, general superintendent and chief engineer of the Broderick & Bascom Rope Co., who has been with the company since 1877. Mr. Frederick also supervised the erection of the building and installation of all machinery.

The Broderick & Bascom Rope Co. was established by John J. Broderick and Joseph D. Bascom in St. Louis in 1875, and was incorporated in 1882. In their earlier days, wire rope was made by hand on a "rope walk" a mile long, then the generally accepted method of making long cables in one continuous length. This company introduced into St. Louis the first wire rope making machinery west of the Alleghanies, enabling them to make ropes of any length in a comparatively small building. The growth of the Broderick & Bascom Rope Co. has been simultaneous with the growth of the use of wire rope for industrial purposes.

Joseph D. Bascom, one of the two founders, is chairman of the board; John K. Broderick is president; Charles E. Bascom, secretary and treasurer. John J. Broderick died in 1919.

CLOCK WINDING COST AIDS ELECTRIC DRIVE

Some statistical genius once figured that it was costing him $210 a year to wind the various clock-driven contrivances in his plant. When he started to check up on how much it cost him when somebody forgot to wind them—he issued a rush order to replace every clock mechanism with electric drive wherever possible.

Doubtless figuring along these lines has been going on generally, for today the demand is overwhelmingly for the electric-driven clock mechanisms. The instrument manufacturers themselves are unquestionably responsible for this far-reaching efficiency.

For quite some time recording instruments—pyrometers, thermometers, resistance thermometers, pressure gauges, tachometers and CO2 meters—have been supplied with a synchronous motor clock, where alternating current is available. Where oil direct current is used, the instruments are usually operated off an impulse time clock system, such as used in most industrial plants.

ARTICLE ON LUBRICATION

The current issue of "Graphite," the publication of the Joseph Dixcon Crucible Co. of Jersey City, N. J., contains among other reading matter an article on the importance of rear axle differential lubrication which is of interest to motorists. "Graphite" also contains several illustrations of motor differentials, showing lubricating processes.

SMALL SIZE EVAPORATORS

A unique evaporator set for furnishing small quantities of distilled water is described in an information leaflet which has just been published by the Griscom-Russell Co. This set forms a complete plant consisting of evaporator, distiller, aerating filter, automatic feeder, and all necessary interconnecting piping, fittings, valves and traps, all mounted on an angle iron frame. This apparatus is designed to supply the demand for small quantities of distilled water and is rated at 30 gallons per hour. It has a wide field of application for the supply of pure drinking water, boiler feed make-up, storage battery water, and distilled water for many processes in chemical industries. Copies of the leaflet No. 401 can be obtained by writing The Griscom-Russell Co., No. 90 West Street, New York.

FEATURES OF INTEREST IN PIPE THREADING

An easy cutting, receding die stock recently developed by the Oster Manufacturing Co. has several features of interest to every one who threads pipe. Its capacity is 1 inch to 2 inch pipe and it is made in both plain and ratchet types.

The most important feature is the construction of the tool. The high-grade material used, combined with the skilled method of manufacture, make the tool well able, the manufacturers say, to withstand the every day hard usage over a long period of time.

Another feature of this new Oster product is its easy cutting qualities, made possible by the new type Oster dies. The special lead on the dies, it is said, enables the operator to start them quickly and easily, while a scientifically worked out cutting angle or rake brings the efficiency of the cutting edge of the dies to a maximum; that is, the teeth of the dies will tool out the metal with the least amount of pull on the part of the operator.

The die head of the tool is constructed so as to be quickly and easily adjusted to cut over or undersized as well as standard threads. The lead screw is protected from dirt and chips by a chip shield. This greatly lengthens the life of the leader screw, which is very important to a tool of this type. A self-centering chuck is standard equipment with the tool but it can also be supplied with bushings and set screws. The advantage of the chuck, of course, is that there are no set screws to bother with or extra bushings to carry.

HAVE STANDARDIZED SILENT CHAIN DRIVES

Link-Belt Co. of Indianapolis, Chicago and Philadelphia has just announced that after many years of work and study of the problem of standardizing and manufacturing silent chain drives for stock, it has placed in operation a new plan by which complete lines of silent chain drives of from one-quarter to ten horsepower, in practically any reduction from one-to-one to seven-to-one, are now available for immediate delivery by distributors located in many principal cities of this country. Back of these distributors will be immense stocks carried in reserve in the warehouses of the company's factories at Indianapolis and Philadelphia.

For more than 20 years the installation of silent chain drives has been an engineering problem. Under the Link-Belt plan it remains somewhat of an engineering problem, but one which has been simplified in conveniently arranged tables, which have been published in book form for distribution by this company.

The stock drive chain is of the same quality as those built for special application. The patented bushed joint construction is the same in the standard stock drive chains as it is in the standard Link-Belt silent chain used for the past 20 years for industrial drives. Distributors are being appointed as rapidly as it is possible to secure the type which will assure Link-Belt service.

TAKES OVER DRILLING CORP.

The St. Clair Exploration Co., a Minnesota corporation, has taken over the Drilling Corp. of America and will continue its business in the Mid-Continent Field and elsewhere. The offices of the company are in the Cosden Building, Tulsa, Okla.

The St. Clair Exploration Co. specializes in diamond core drilling, and has done a great deal of that work in the States of Wisconsin and Michigan.

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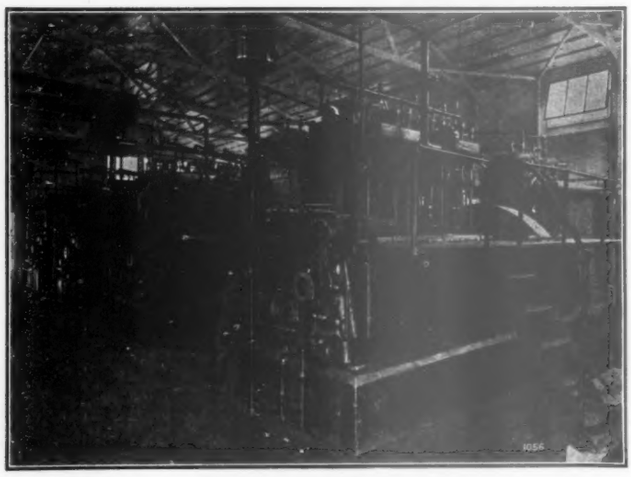
ENGINEERS & CONTRACTORS
IN NATURAL GAS AND OIL



Hope Vertical Gas Engine-Compressors in a Hope-designed and Hope-built plant.

Twenty Years Young

While the Hope Engineering Organization has 20 years of experience behind it, it is kept up-to-the-minute by day-after-day contact with new problems, new conditions. It has pioneered many important improvements in the oil and gas industries. It has made records which have never been surpassed. It has proved, repeatedly, its ability to handle any problem in engineering construction—speedily and economically.

HOPE SERVICE

Engineering counsel, design, construction and contracting—in pipe lines for oil and gas, oil pumping stations, gas compressing and boosting plants, gasoline recovery systems, city and inter-city gas mains.

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ENGINEERS CONTRACTORS
HOPE Engineering & Supply COMPANY
DESIGNERS MANUFACTURERS
MT. VERNON, OHIO, U. S. A.

EASTERN GASOLINE DEMAND RESULTS IN GREATER CALIFORNIA SHIPMENTS

By N. O. Fanning

NEW YORK, May 9.—California will not down as a factor in the world oil situation. Oil men here believe that if California oil were now removed as a factor, gasoline east of the Rockies would advance to 25 cents per gallon and Mid-Continent crude to $3 per barrel. There is actually a shortage of high grade oil and of gasoline east of the Rockies, caused partly by the unusually fine weather of the past month and big consumption of gasoline. As a result preparations have been made to fill the gap by an unusually heavy importation of California crude and gasoline over the next month or two.

Early in the year eastern oil marketers planned to increase their purchases of California oil, but since the original contracts were made the need has become even greater than was originally thought, and additional contracts are understood to have been closed, largely by Gulf Refining, Sinclair Consolidated and The Texas Co., practically new factors in the movement of California oil through the Panama Canal.

It is said that Sinclair will move 3,000,000 bbls. of oil through the canal and other independent and Standard companies have contracts calling for many millions of barrels more. Much of this oil will consist of crude and finished products.

In addition some large European distributors of gasoline have recently made large purchases of California gasoline. Also, the demand for cased gasoline for shipments from California to the Orient has been usually heavy. About 500,000 cases of gasoline and kerosene are slated to move in May alone.

The sudden activity in the California oil trade is coincident with a lull in the eastern bulk refinery markets, which is significant.

The renewal of the heavy movement of California oil the territory east of the Rockies and into export channels might be looked upon at first thought as meaning a slump in the oil markets of the world, when in reality it represents a correction of a situation which has been hanging over the markets since 1923.

Although production crude in California has been declining since the peak of 1923, stocks of both crude and refined oil have been piling up, with the result that they are now about at their peak. This unhealthy condition of stocks has meant the possibility of "dumping" and naturally the oil situation throughout the world could not be considered perfectly sound with that existing in any part of the industry.

Now there is every indication that the markets of the world can absorb this surplus California oil without suffering any severe slump. If so, it will relieve California and remove what is perhaps the last menace to oil prosperity.

WORLD COOPERATION FOR OIL ANTICIPATED

Britain is now using 400,000,000 gallons of gasoline a year. This is little more than 5 per cent of American consumption, but it is enough to affect seriously the coal business, writes Herbert N. Casson from London in the Wall Street Journal. He adds that half of the ships being built in Britain will be oil burners. And ever since the last coal strike, hundreds of mills and factories have changed from coal to oil.

This increase in the use of oil has brought the British Power Alcohol Association into the limelight. This is an association of London business men, led by Sir Edward Manville, Sir Charles Bedford and Sir Lynden Macassey. It has put a proposal before the government that 100 factories be built to manufacture power alcohol out of sugar beets and damaged cereals. It is asking a subsidy for the first three years; and it claims by 1935 it can be producing at the rate of 100,000,000 gallons a year. As the government is already subsidizing the beet sugar industry, it is likely to grant a subsidy to this Alcohol Association; but the project will go forward, subsidy or not.

Britain is alarmed at the decline in last year's world output of petroleum. The news that the Standard Oil Co. has bought the Mexican interests of Doheny, has been received favorably by the British press. The Standard Oil has always been a very popular company in Great Britain. It is highly respected for its integrity and its efficiency in foreign trade. The most prominent American in London, for the last 15 years, has been Mr. Powell, the head of the Standard Oil Co., in Great Britain.

England is not afraid of big combines. They are encouraged and subsidized, rather than suppressed. According to English opinion, a big combine is able to stabilize prices. Also, it is much more likely to give an honest service to the public than a small company can. Big companies have the most to lose, say the English. Consequently, they are apt to be more obliging and honest than a small firm that thinks only of its immediate profits.

In fact, England is hoping that there will be eventually a gigantic world oil trust, so that production of oil may go forward without being saddled by expenses and wastes of competition. One important fact in the present oil situation, from an English point of view, is that Mr. Churchill is now at the head of the treasury, in the British Government. Churchill it was who created the present aggressive oil policy of Great Britain. It was he who organized the "Petroleum Imperial Policy Committee," which is known in Government circles as P. I. P.

This committee met in secret during the war, and after; and it aimed at securing possession of the undeveloped oil lands of the world. As result of the propaganda of the P. I. P., the British Government backed the Anglo-Persian Oil Co., which now has an output of about 5,000,000 bbls. a year. But during the last year or two the aggressive British poilcy has been modified; and we now find the Anglo-Persian cooperating, in a free and friendly way, with its American, Dutch and French competitors.

As the oil business of the world now stands, propably 75 per cent of the capital in it is American and 15 per cent of it is British. So, not even the most enthusiastic member of the P. I. P. can hope to bring the oil business, in any sense, under British control. The most that can be done is to maintain a spirit of good-will and practical cooperation with those who do control it.

MEXICO ENCOURAGES DRILLING NEAR CAPITAL

The Mexican Government is disposed to offer special inducements to petroleum companies to drill within the Valley of Mexico, near Mexico City, according to a statement issued by the Department of Petroleum. The bringing in of oil wells near the capital is desired by the Government as a means of furnishing cheap fuel to industrialists and for the purpose of bringing down the present high price of gasoline.

The maximum extension of each concession will be 660 acres. The first three companies to obtain petroleum will not be required to pay rent and other taxes. Other concessionaires will pay from 5 to 30 per cent of the production, according the the quantity produced.

The Department of Petroleum believes oil exists in the ancient Lake of Texcoco and also at Guadalupe-Hidalgo.

has to tell about Paint for Industry

We call attention to the thorough way in which we serve the petroleum industry. One evidence of this is the Sherwin-Williams Petroleum Industry Painting Guide which specifies the correct finishing material for each surface—the paint, varnish or enamel made by Sherwin-Williams expressly for that surface. Another evidence is the special Petroleum Industry Department maintained by Sherwin-Williams to give the closest study of the needs and to work in the most intelligent cooperation.

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THE SHERWIN-WILLIAMS CO.
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Cleveland, Ohio

Stops Mistakes in Painting

SHERWIN-WILLIAMS
PAINTING GUIDE
FOR THE
PETROLEUM INDUSTRY

TO PAINT

AUTOMOBILES
S-W Automobile Metal Primer
S-W Colors in Japan

BARGES
Steel:
S-W Kromik Primer
S-W Marine Hull Paints
Concrete:
S-W Concrete Hardener
S-W Marine Paints
Wood:
S-W Barge and Lighter

BUILDINGS AND DWELLINGS
Exterior:
Wood:
S-W Oil Station Paint
Brick:
S-W Concrete Wall Paint
Concrete:
S-W Concrete Wall Paint
Iron—Galvanized:
S-W Galvanized Iron Primer
S-W Kromik Primer
Interior:
S-W Flat-Tone
S-W Eg-Shel Mill White
S-W Inside Floor Paint

CONCRETE TANK FOUNDATIONS AND CEMENT BASES
S-W Concrete and Cement Hardener
S-W Concrete Floor Paint
S-W Concrete Wall Paint

DERRICKS
Steel:
S-W Kromik Primer
S-W Ebonol
Wood:
S-W Ebonol

FENCES
Metal:
S-W Kromik Primer
S-W Tank Paints
Wood:
S-W Oil Station Paints

HOLDERS—GAS
S-W Kromik Primer
S-W Aluminum Paint
S-W Tank Paint

MACHINERY
S-W Oil Proof Machinery Paint

METAL SURFACES—EXPOSED
S-W Kromik Primer
S-W Oil Station Paint
S-W Metalastic

PIPES—STEEL UNDERGROUND
S-W Ebonol
S-W Plastic Pipe Coating

POLES
Wood:
S-W Pole Paint
S-W Oil Station Paint
Metal:
S-W Kromik Primer
S-W Metalastic
S-W Tank Paint

PORTABLE BUILDINGS
Metal:
S-W Kromik Primer
S-W Oil Station Paint
S-W Metalastic
Wood:
S-W Oil Station Paint

ROOFS
Paper:
S-W Ebonol
S-W Liquid Roof Cement

ROOFS—Continued
Tin:
S-W Roof and Bridge Paint
S-W Tank Paints
Galvanized:
S-W Galvanized Iron Primer
S-W Kromik Primer
S-W Tank Paints
S-W Roof and Bridge Paint
Shingle:
S-W Preservative Shingle Stain

TANKS—STORAGE
Steel:
S-W Kromik Primer
S-W Tank Paints
S-W Aluminum Paint
Bottom:
S-W Ebonol
S-W Elastic Cement Coating
Filling Station (Underground):
S-W Ebonol
S-W Elastic Cement Coating
Concrete Storage:
S-W Concrete and Cement Hardener
S-W Concrete Oil Proof Coating No. 121

TANK CARS
Steel:
S-W Kromik Primer
S-W Tank Car Paints
Underframes:
S-W Underframe Black

TRUCKS
S-W Automobile Metal Primer
S-W Sur-Fas-Rite
S-W Colors in Japan

TO VARNISH

AUTOMOBILES
S-W Automobile Enamel Clear
S-W Wearing Body Finishing
S-W Motor Truck Finishing

BARGES—STEEL
S-W Rexpar

BUILDINGS AND DWELLINGS
Interior:
S-W Scar-not

MACHINERY
S-W Rexpar

TRUCKS
S-W Auto Enamel Clear
S-W Wearing Body Finishing
S-W Motor Truck Finishing

TO ENAMEL

AUTOMOBILES
S-W Opex Lacquers and Enamels
S-W Auto Enamel
S-W Old Dutch Enamel

BUILDINGS AND DWELLINGS
Interior:
S-W Old Dutch Enamel
S-W Enameloid

MACHINERY
S-W Lustral Enamel

TRUCKS
S-W Opex Lacquers and Enamels
S-W Auto Enamel
S-W Old Dutch Enamel

For removing paint and varnish use Taxite—quick, easy, thorough, economical. Can be used by anyone on any surface.

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Gasoline Super-Tractors

New Star Super-Tractors Make Drilling Cheaper

The Star Portable Machine with steam power has done its share in reducing drilling costs in the cable tool fields through its saving of time and expense in moving and rigging up as compared to the standard and other types of rigs.

Still greater economy can be gained through the use of the new Stars Nos. 28ST and 30ST Gasoline Super-Tractors. They are the same size, capacity and design of the two largest sizes of Star Steam Machines and possess all their advantages and more.

These new Star Super-Tractors reduce the cost of drilling and cleaning out to a point of absolute economy. Consider the savings made in these two items alone:

Moving Expense — The 28ST and 30ST move under their own power. Only about one-sixth of the teaming is necessary with them as compared with the Star Steam Machines.

Fuel — No coal or water for boilers. 15 gallons of gasoline do the work of one ton of coal. Where Natural Gas is available, the Star Natural Gas Attachment reduces the cost of operating to a few cents an hour. Gasoline or natural gas interchangeable without stopping the motor.

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Special Bulletin No. 16, giving complete data and specifications gladly furnished on request.

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MILL PRICES OF MERCHANT PIPE AND OIL COUNTRY GOODS HOLDING

By B. E. V. Luty

PITTSBURGH, Pa., May 11.—In the steel market as a whole there has been a slight further tapering off in buying activity, which makes the market present a very decided appearance of dullness. This is only comparative, however. The buying is far below productive capacity, and still farther below the rate of buying in December and January, but still it represents quite a large tonnage, possibly up to 50 per cent of capacity. The buying is in numerous small orders, for immediate necessities. There is no forward buying, except of construction material, which has to be contracted for in advance.

The general tone of the steel market is decidedly depressed. Buyers are extremely conservative, and while for some time past they have been disposed to liquidate stocks thoroughly, the seem now to be still more strongly committed to such a policy.

Recently there were distinct declines in bars, shapes, wire products and sheets. In the past week there has been no further softening, but rather there have been evidences of some mills making a strong effort to secure better prices. These efforts have not definitely succeeded yet, but they are strong. While some observers regard this as an encouraging aspect in the general steel market situation, others take the opposite view, asserting that the steel market has never had a substantial improvement without first having had a thorough shaking out, and that delay in this shaking out process merely postpones by so much the eventual recovery. Some predictions have been that the steel market would reach its low ebb by July, with a distinct improvement then commencing, while the others do not believe recovery can begin so soon.

Rate of Operations

Steel mill operations are now down to a rate between 70 and 75 per cent of capacity, operations in the Pittsburgh and Youngstown districts being estimated to be in that neighborhood, with the eastern seaboard not doing so well but the Chicago and Birmingham districts doing better.

Pipe mill operations have undergone no visible change, having been at around 70 per cent of capacity for about three weeks. The maximum was a 90 per cent rate, in February, when there was much help by line pipe orders, which are now almost entirely filled, while there is no new business in line pipe at present.

Buying of oil country goods has proceeded at a pretty even pace in the past few weeks. It is not a bad pace altogether, but there is not nearly so much buying as was expected at the beginning of the year, when prospects for oil drilling seemed particularly favorable. There has not been as much buying in the past few weeks as there was early in the year, when there was some anticipation by buyers.

Oil Country Goods

While buying of oil country goods has not visibly decreased in the past few weeks, there has been in the past week a little further tapering off in buying of merchant pipe by jobbers, who stocked up in a mild way early in the year and are now more strongly than ever disposed to liquidate their stocks to the extreme minimum possible. Jobbers are holding prices in general, but there has been shading on particular orders for some time past by certain jobbers on sizes they were particularly well stocked with.

Mill prices of both merchant pipe and oil country goods continue to be very rigidly maintained, line pipe being, however, subject to the usual negotiation if a large tonnage is involved. The rigidity in price maintenance in tubular goods is of course due to the knowledge of mills that if any weakness should develop the whole market would be likely to sell off and all mills would suffer. Hence each mill is punctilious in avoiding any cause of offense to other mills.

The pig iron, coke and scrap markets continue stagnant. Prices are unchanged except that heavy melting steel scrap is off another 50 cents, being now quotable at $16 to $16.50 delivered Pittsburgh district.

JAPANESE GOT FUEL FROM SAKHALIN WELLS

Until the signing of the treaty between the Russian republic and Japan for the termination of the occupation of the northern part of Sakhalin by Japan, the zone of the petroleum industries on the island was surrounded all the time by military guards. Only Japanese were engaged on the works, and the Japanese press was strictly forbidden to make any observations on the Sakhalin petroleum industry. This regime, which lasted for four years, was so strictly observed that in the Far East no one had any information on what was going on at the works. Now the situation has changed. As they are preparing to hand over the northern part of the island to its owner, the Russian republic, the Japanese see no further reason for making any secret of their work at the petroleum industries. The Japanese press, says a Chabarovsk correspondent of a Moscow journal, has expressed some views of great interest to Russia. As is known, the investigation of exploitation of petroleum was financed by the Japanese Ministry of the Navy, which required fuel for its ships. On January 1, according to the budget of the Ministry of Marine, the money allocated for the purpose indicated was 4,100,000 yen. Part of this sum went to pay for the petroleum delivered to the marine department, and part remained unused, it being counted as a Government loan to the Chokusin Kaisha Co., which exploited the paraffiniferous ground in the limits of the 1919 claim of Stacheieff, the fugitive from Moscow, who at the time of the Koltchak Government ceded his rights to this company. At present there are 30 derricks operating on the industries, with a total average production of 40,000 poods a day. In consequence of the defective equipment of the bay of Tchaibo, the petroleum is loaded into steamers for conveyance to Japan in small quantities; as may be judged from the fact that there are only three reservoirs, of a total capacity of 120,000 poods. There are cases, but rare, of flowing wells, the most important having been discovered in the summer of 1924. The petroleum is much used as fuel in the district where it is found.

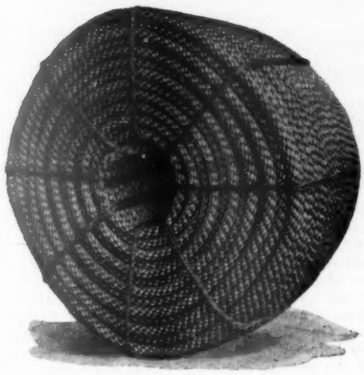
GULF PIPE LINE CO. PLANNING MORE LOOPS

HOUSTON, Tex., May 9.—The Gulf Pipe Line Co. is laying 80 miles of 6 and 8-inch pipe loops beween Dubberly, La., and the main line station north of Lufkin, Tex. The lines from Oklahoma, North Central Texas, East Central Texas and North Louisiana merge at the Lufkin station. The loops will increase the capacity of the line from North Louisiana and Arkansas between 8,000 and 10,000 bbls. per day. It is expected the work will be completed by May 15. The Gulf Refining Co. of Louisiana, has a production of 20,000 bbls. per day in the Smackover (Arkansas) Field and the additional line capacity is necessary to handle the increased output in that field.

The pipe line company has ample trunk lines from the Lufkin station south to the big refinery of the Gulf Refining Co. at Port Arthur.

NEW TRANSCONTINENTAL HEAD

PITTSBURGH, Pa., May 9.—C. H. Huston, former assistant Secretary of Commerce, has been elected chairman of the board of Transcontinental Oil Co., to succeed M. L. Benedum, resigned. Other officers were elected.



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GAS TEMPERATURE 20 DEGREES BELOW IN FREAK WELL IN OKOTOKS FIELD

By F. B. Taylor

CASPER, Wyo., May 9.—Calgary, Canada, has come forward with a new gas area and a freak well, located near Okotoks, about 20 miles out of Calgary. The well is now producing gasoline and the production is being sent to Calgary for blending.

The well was started last year and encountered several showings of gas at different points. Last fall it reached a depth of 3,700 feet and found a heavy gas pressure that blew the tools up in the hole and when they dropped, parted the cable and produced a fishing job. When the crew started to fish for the lost string they found what they concluded was a collapsed casing about 200 feet above the bottom of the hole. The fishing string would not go to bottom after many tries. Reamers and mandrels had no better success. One day a rope spear came out of the hole with the end bent over and one of the men concluded that something had been dropped in the hole that lodged above the lost tools and was effectually blocking the fishing strings. Impression blocks failed to reveal any indication of collapsed pipe.

A small grab brought up some pieces of ice and the mystery was solved. The crew got busy with salt and steam in the hole and a few days later recovered the lost tools and cleaned out the hole. As soon as the hole was cleared the well started to gas at a tremendous pressure. A string of 6-inch casing was run inside the 8-inch, and the 8 and 6 strings bradenheaded together. A valve and a 1,200-pound gauge had been placed on the 6-inch string and as soon as the hole was in good shape the valve was closed. The 8-inch casing was frozen solid and several attempts had been made to pull it during the time of fishing for the lost tools.

As soon as the valve was shut, the gauge ran up to its limits of 1,200 pounds pressure, then the two strings of pipe, the 8 and 6-inch, started on a trip up in the derrick. The bradenhead and valve on top reached the crown pulley where something happened to release the valve and the two strings of pipe slipped back down the hole. When the 8-inch reached its former position it stopped, but the 6-inch slipped through, breaking off the valve and letting the well go wild. The friction caused a spark and for several weeks the company was busy getting the fire out and the well under control. Fred Richardson, field man of the Carter Oil Co. and a resident of Casper, was sent from Casper to take charge of this work and uder his supervision, the fire was put out and the well placed under control.

When the well was capped, thermometer readings were taken and it was discovered that the gas has a temperature of 20 degrees below zero. This explained the freezing of the water in the well, which kept the fishing tools from reaching the bottom.

The well indicated a pressure that could not be controlled by the casing, so a bleeder line of 4-inch pipe was laid away from the location for a distance of 4 miles. This line has drip connections along its whole length and the control valves are kept closed as far as is considered safe; at the end of the line the gas is burned. The 4-inch line is covered with ice and frost along its whole length, the gas is rich in gasoline and the company obtains a production of about 600 bbls. daily of gasoline of 72 degrees gravity which is shipped to Calgary and there blended with refinery runs for the market. The daily production makes about three tank cars.

The well is owned by the Royalite Oil Co., a subsidiary of the Imperial. The gas is considered coming from the lower Cretaceous. probably the Grand Rapids sand. As far as can be learned, no gas has ever shown as low temperature as this well.

The geology of the Calgary area is similar to northern Montana, the Cretaceous on the surface, with the Colorado and Dagota series forming the main horizons. Below lie the Jurrassic shales and then the Carboniferous and Devonian limes. There is very small chance of production being found in the latter, according to the authorities. The Grand Rapids sandstone is considered to be the Dakota sand of the Rocky Mountain region. The McMurray tar sand of Canada is considered to be either the Lakota or Sundance.

GOVERNMENT'S BRIEFS IN CRACKING CASES

CHICAGO, May 2.—Validity of patents governing the cracking process is challenged by the Government in briefs filed with the Federal Court here. These briefs were filed by the Government on the master's certificate on the right of the Government to introduce evidence of disclosures of prior patents to those now held by the defendant companies and in support of interrogatories aimed to determine from the defendant companies which of their patents they now use. As typical of the alleged situation surrounding the control of processes, the Government offers a patent issued to Norman M. Denderson, granted April 27, 1886, against the patent of R. E. Humphries, granted December 22, 1924, and assigned to the Standard Oil Co. of Indiana, and, offered a patent to Luther Atwood, granted May 29, 1906, against a patent issued to W. M. Burton, granted November 16, 1915. The Government informs the court that the evidence it seeks to introduce is designed to show the state of the art prior to the patent situation created by the defendants, in order that the court may have all of the facts on which to base its judgment as to whether the defendants were compelled to pool their patents through cross license agreements.

"While in the form of a question of evidence," the Government's brief states, "the certificate raises a vital issue of substantive law, since it involves the right of the Government to attack the right of a group of powerful producers to control trade and commerce in an article of necessity by means of cross-licenses under asserted patent rights, and to show that such asserted rights, viewed in the light of the prior art, are so restricted and narrow as to be practically negligible, and therefore, to form no justification for the combination.

"The denial of the right contended for by the Government would mean that producers in a given industry would have only to procure and cross-license each other under patents of little or no value or importance in order to evade safely the anti-trust laws, since the Government would be precluded from exposing the situation and would be remitted to the sole question whether, assuming the validity of the patents and the correctness of the interpretation placed by them by defendants counsel, they are so basic as to control the industry and justify the restraints imposed in excess of those authorized by the law."

RICHBURG OIL SALE

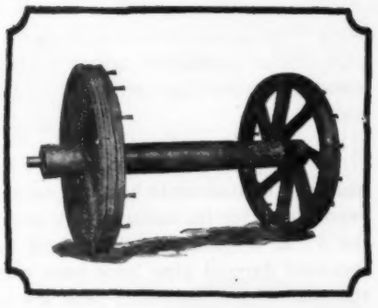
BOLIVAR, N. Y., May 9.—Erie J. Wilson and Mr. and Mrs. John H. Reynolds of Bolivar have sold their oil property on the Keller and Scott farms at Richburg to the Producers Oil Co. of Olean. The property consists of 160 acres in fee, surface and royalty, 40 producing wells, usual lease equipment, etc. The daily production is about 14 bbls. This property is located on the north side of the F. J. Brown Oil Co. lease on the Cartwright farm on which a 100-bbl. well was completed sometime ago. It is 900-foot drilling, the Richburg sand varying in depth from 10 to 60 feet. The new owners will start drilling a number of new wells.

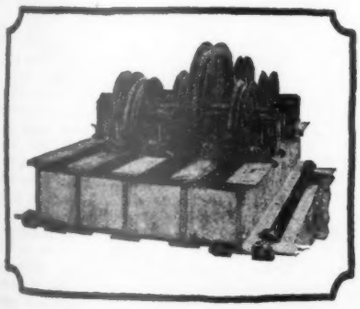
a Wind Storm

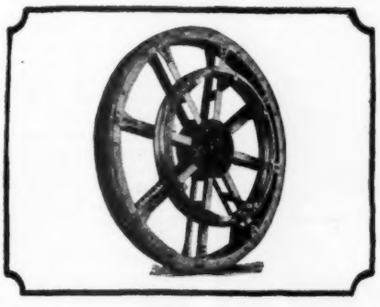
International "Ideco" Derricks of Galvanized Structural Steel mean a permanent, yet portable, installation devoid of upkeep expense, but absolutely storm-proof.

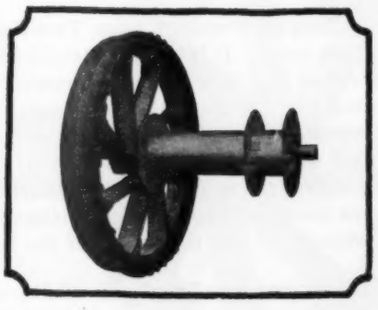
"Ideco" derricks are built of beams, channels and angles, giving greater strength for a given weight than any other form of steel construction—fabricated entirely in our own plant. By the International method of galvanizing after fabrication, every exposed part is given an extra heavy rust-preventing zinc coating.

How big operators have effected remarkable savings in their production costs is shown in the booklet, "Steel vs. Wood." Write for it.





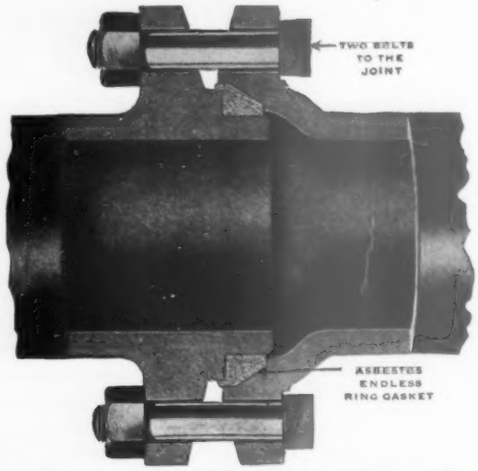




INTERNATIONAL STEEL IDECO DERRICKS (GALVANIZED)

OIL GATHERING LINES RESIST RUST

When They Are Cast Iron



Section through assembled joint showing asbestos endless ring gasket in place

Permanent construction always is desirable. It is little short of an economic crime to spend money for a pipe line of perishable material when a practically permanent construction can be obtained by the use of cast iron.

In the past, cast iron pressure pipe in 2″ diameter has been unattainable because no satisfactory way had been found for its manufacture and installation, and in the 3″ to 6″ diameters standard bell and spigot and standard flanged pipe have been unsuited for many of the special uses to which pipe are put in and about oil fields and refineries.

Simplex Prepared Joint Five-Foot pipe now meets these needs. It is being widely used in the oil fields to replace the pipe of other materials which so rapidly rust out. A particular advantage which has strongly appealed to oil men, is the manner in which it can be laid on top of the ground, the joints bolted together, and then the whole line "snaked" into the trench where the joints are found to test satisfactorily under pressure without further tightening of the bolts.

Let us send you Simplex Joint Illustrated Bulletin No. 84 and names of oil companies who have been using this pipe for years.

Asbestos Endless Ring Gasket
Two bolts to the joint.

Diameters 2″, 3″, 4″ and 6″
Laying length 5′, 10′ 15′ or 20′

Also Simplex Oil Condenser Piping, Manufactured and Sold by

AMERICAN CAST IRON PIPE COMPANY
BIRMINGHAM, ALABAMA

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KENTUCKY-TENNESSEE

(Continued from Page 52)

week, all being in the deep sand at 180 feet below the black shale. In the Emery-Moore Pool, the Star Oil Co. finished No. 19 Ritchie for 8 bbls. at 530 feet, after shooting the sand with 30 quarts; Wiggins & Gillespie's No. 3 Mack Mansfield, pumped 8 bbls. at 536 feet; Fred Moore's No. 10 fee pumped 9 bbls. at 538 feet; Houchins Leasehold Co.'s No. 7 Ziegler made 5 bbls. at 540 feet when placed on the pump.

In the Hall-Baker Pool, the Wood Oil Co. had two completions. No. 2 Duff, offsetting No. 6 W. M. Church, tested 9 bbls., and No. 1 Martin is a gasser at 603 feet. On the Burris farm, the Henderson Oil Co.'s No. 7 Burris made 5 bbls. on jack at 540 feet.

Owensboro District

C. A. Leper's No. 3 Collier, 1½ miles southwest of the Swope Pool, in the Owensboro district, is estimated at 100 bbls. at 550 feet with 25 feet of Jett sand. After a shot the well flowed to the top of the mast at intervals from open hole and was drowned out so casing could be set.

Drilling Activities

Star Oil Co.'s No. 6 Joe Star, casing at 145 feet; No. 20 Ritchie, drilling at 540 feet; Fred Moore's No. 4 Bruton spudding; Carter Oil Co.'s No. 7 Gooden, drilling at 70 feet below the shale; Henderson Oil Co.'s No. 8 Burris, spudding; Ziegler Brothers No. 1 Green, drilling at 800 feet. This is a deep test and will be carried to a depth of 1,150 feet.

In the Gorby Pool, T. L. Gorby is drilling No. 3 Cassidy from the shallow amber oil sand to the deep pay; No. 1 Everett, cleaning out; No. 2, spudding; J. L. Porter's No. 5 McLaughlin, spudding; L. J. Emery, Jr. & Sons' No. 6 Depp & Greer, drilling at 210 feet.

In the Hall-Baker Pool, the Wood Oil Co.'s No. 8 W. M. Church, cleaning out; No. 1 Grover Evans, cleaning out; No. 1 Harvey & Duff, abandoned at 780 feet; Harrington & Norris' No. 5 Evans, drilling at 212 feet; No. 2 Hutcherson, drilling at 300 feet; Carter Oil Co.'s No. 1 Joe Harlow, which failed to get a showing at 40 or 100 feet below the shale, is being drilled deeper; H. F. Williams' No. 1 Franklin, 1 mile southeast of Harvey & Duff, is shut down with a showing at 555 feet.

Samson & Young's No. 1 Samson, 1 mile from Glasgow, on the Tompkinsville pike, struck gas at 275 feet which ignited the boiler doing considerable damage. Soon as a field boiler can be moved to the location the well will be drilled deeper.

Allen County

Two good completions in the southwest end of Allen County feature the week in the Scottsville district. Hice and others brought in No. 1 R. R. Smith, good for 75 bbls. at 3 feet below the black shale. On tapping the sand, the well flowed 6 bbls. per hour for several days. It is one-half mile to the west of the Wheat farm and opens up quite a bit of new territory. On the Lyle farm, in the Lyle Pool, Work and associates got a 30-bbl. starter in No. 7, in a sand picked up immediately below the shale.

In the Walker Pool, the Central Southern Oil Co. brought in its seventh straight producer on the Walker farm for 5 bbls. at 341 feet. The shale was from 285 to 328 feet and the sand from 331 to 340 feet was shot with 20 quarts of nitro. On the W. McReynolds place, Mrs. J. McAlpine got a 5-bbl. pumper in No. 10 at 400 feet.

F. F. Blanchard's No. 1 R. J. Howell, a semi-wildcat test between the Wheat and Mt. Aerial Pools, is dry and plugged at 222 feet, 140 feet below the shale. C. Foster's No. 4 R. O. Mulligan was plugged at 400 feet.

In Simpson County, Small & Sully's No. 9 Hogan, 3 miles south of Auburn, pumped 8 bbls. when placed on power at 600 feet.

Eastern Division

Very little work was accomplished in the eastern division the past week due to bad road conditions brought about by heavy rains. There were, however, 16 completions, 11 of them producers, 2 gassers and 2 dry holes.

In District No. 35 of Lee and Owsley Counties, the Black Gum Oil Co. completed No. 13 Gourley-Redman-McGuire for 50 bbls. flush at 1,100 feet; Hupp & Duff's No. 4 Widow Porter, same district, pumped a like amount of the Idamay sand.

In District No. 18, H. B. Sipple's No. 1 Parish-Gourley tested 10 bbls. from the Corniferous sand. This well extends production slightly to the south and east.

North Weir Field

In the North Weir Field of Johnson and Lawrence Counties, Garrison & Townsend finished two wells in District No. 22. No. 2 Lizzie Collier tested 12 bbls. at 950 feet in the Weir sand, and No. 3 J. N. Sparks, 10 bbls. from the same formation.

The South Weir Field of Johnson and Magoffin Counties, is credited with two completions; R. G. Gillespie's No. 5 Sam Blanton, District No. 30, is estimated at 20 bbls. from the Weir sand, and Oliver & Jenkins' No. 6 W. P. Adams, District No. 27, good for 8 bbls. from the Weir sand.

Other Completions

In Floyd County, the New Domain Oil & Gas Co.'s No. 4 John Martin, District No. 21, is a gasser at 1,300 feet; the American Roller Mills brought in Nos. 4 and 5 in the Summitt area for 50,000 feet of gas each.

Frank Conley's No. 1 George Hefton, in District No. 30, Morgan County, is dry and abandoned.

In Estill County, Brenner & Adams' No. 16 James Arthur, District No. 7, is a 1-bbl. stripper at 450 feet.

The Superior Oil Corp.'s No. 7 Dabney, District No. 2, in Wayne County, is estimated good for 20 bbls. from the Beaver sand; E. G. Hogue's No. 12 J. Harve Duncan, same district, was dry and plugged in the Beaver sand. In District No. 5, the Beaver Petroleum Co.'s No. 10 T. C. Morrow is rated as a 5-bbl. pumper in the Beaver sand.

OIL HEATING GAINS FAVOR IN DEMARK

Heating apparatus which use oil as a fuel have been used in Denmark, especially Copenhagen, for several years. One Danish factory manufactures a fuel oil heater, and a German appliance is also on the market. Installations of both have been made in considerable numbers within the last year or two, and reports from Consul General Marion Letcher, at Copenhagen, indicate that both burners have given general satisfaction.

The climate of Denmark seems rather favorable to the use of oil-heating plants, since cold and relatively warm days are likely to alternate. Raw but not extremely cold weather is the rule, and unpleasantly cool days are not rare even in the summer. It is believed an oil heater would be better adapted to graduation to suit the varying temperatures than would a coal furnace; the oil burner is also probably much easier to manipulate. On the other hand, the use of furnaces to heat houses is relatively rare in Denmark, statistics indicating that only about 10 per cent of the Danish houses are heated in that way. Soft coal stoves are the rule, and heating methods long discarded in the United States are still the common practice.

NEW YORK COMPLETIONS

BOLIVAR, N. Y., May 9.—The Sawnett Oil Co. has completed a fair well on the Childs farm, Daggett Hollow. Hill, Hughes and Keller have completed a good producer on the Waid lease in Daggett Hollow. Whitford, Feaner & Co. have completed a fair oil producer on the Crandall farm, town of Bolivar. The Victory Oil Co. has finished a fair well on its lease in Bolivar Township. Cowles and Richardson were the contractors. Contractors Cowles & Richardson completed a good producer for Hardman, Thompson & Miller on the Hazard farm, Pleasant Valley district.

Oil Well Equipment

The Marionhill Pitman (patent pending) is the biggest improvement in pitman construction in years and is a sure cure for the rapid mortality in drilling and pumping rigs, strained and shattered out of alignment from too much pulling of pitman from wrist pin.

In the Marionhill Pitman, the bearing remains on the wrist pin, and a hinged bearing lock securely connects the pitman.

A turn of the bolt nut releases the hinged bearing lock, allowing the pitman to swing free from the wrist pin.

Top pitman picture at right shows bearing lock opened and bearing and wrist pin resting on steel I-Beam pitman.

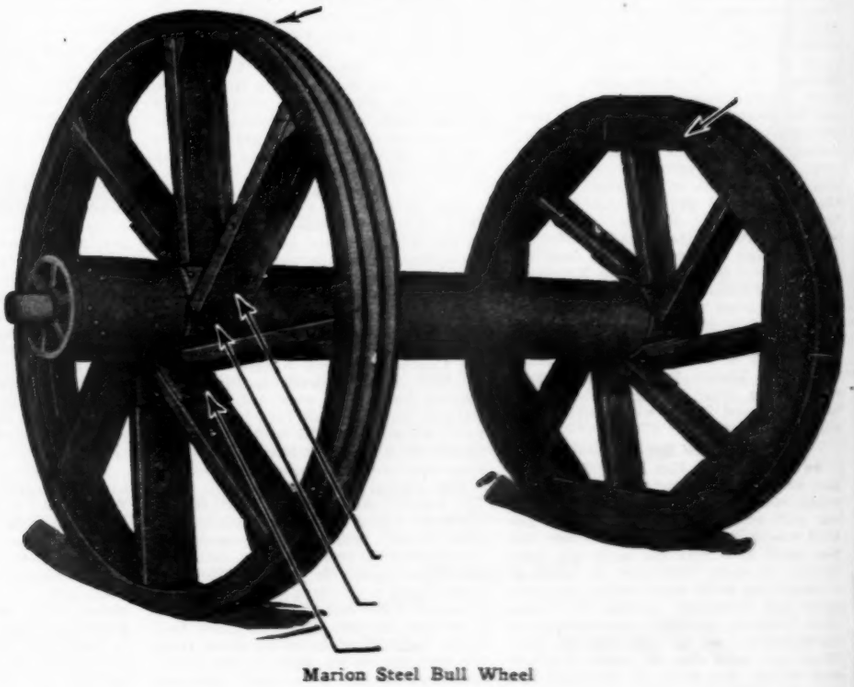
Write for Bulletin No. 217

"I have been using one of your Marionhill Steel Pitmans for about two and one-half months and it is the best pitman I have ever used. It is easy to operate, leaves rig in perfect alignment, and takes all jar off the sucker rods. In my opinion it is as near fool-proof as one could be made."

—From letter in our files.

Marionhill Pitman (Patent Pending)

Marion Steel Calf Wheel



Marion Steel Bull Wheel

Marion Steel Pony Wheel

& Supply Company

Marion, Indiana

Natural Gas Fields of Western Canada

Immense Quantities in Sight in Alberta but no Immediate Market. Location of Fields and Analyses of Product by Districts.

By Victor Lauriston

CHATHAM, Ont., May 9.—While the widespread search for petroleum in western Canada, has, so far, been attended by no very marked results, drilling operations have developed in the province of Alberta some remarkably large natural gas fields. Apart from the eastern provinces of Ontario and New Brunswick, Alberta is the only Canadian province in which natural gas has been encountered in commercial, or even appreciable, quantities.

The Alberta natural gas development is noteworthy from the fact that while, in New Brunswick and Ontario, the decline in the production has necessitated conservation measures, in Alberta there are immense quantities of natural gas for which no immediate market is in sight. The Dominion Government has given some attention to the possibilities of utilizing the waste gas of Alberta for other than domestic and industrial purposes, and the possibilities of the natural gas gasoline and carbon black industries have been investigated. At the present time there are, in the Turner-Valley-Okotoks Field, southwest of Calgary, a couple of natural gasoline plants in more or less successful operation, but though provision has been made for carbon black manufacture and some permits have been issued, no carbon black plant is yet in operation.

With one exception, the known natural gas fields in Alberta lie east of the north and south line from Calgary to Edmonton. This one exception is the Turner Valley Field, southwest of Calgary. The four most important gas fields are situated near the main railways lines, the Medicine Hat and Bow Island Fields close to the Canadian Pacific, and the Viking and Irma-Wainwright Fields, close to the Canadian National. Except the Wainwright Field, the gas from these producing areas is used for domestic and industrial heating and lighting. The Medicine Hat Field supplies the city of Medicine Hat through a municipal system; the Bow Island gas is piped to Lethbridge, Macleod, Calgary and some smaller towns by the Canadian Western Natural Gas Co., and the gas from the Viking Field is distributed to Edmonton by the Northwestern Utilities, Ltd.

Of the other fields, the Many Island Lake Field is within about 40 miles of the Medicine Hat Field; while the Foremost Field is about the same distance from Bow Island. In addition to these fields, some other producing areas have been developed in the widespread search for oil.

Medicine Hat Field

In the Medicine Hat Field, the proven gas area covers about 40 to 50 square miles, with a probability that future drilling will extend the field. The first gas well was drilled in 1890, to 650 feet, but not until 1905 was the main gas sand located at about 1,000 feet. In addition to municipal wells, some drilling has been done and production secured by industrial concerns. In 1922, the consumption amounted to nearly 3,200,000,000 feet. There are more than 68 miles of 4-inch and 6-inch line used to distribute the gas. In drilling, two gas sands are encountered, one between 600 and 800 feet, and the more important between 1,000 and 1,200 feet. Originally the rock pressure was about 500 pounds, but in 1923, tests taken when gas was passing into the high pressure mains showed between 300 and 400 pounds.

Medicine Hat in the early days offered cheap gas to attract industries. The domestic rate is 25 cents per 1,000 feet.

In the Redcliffe Field, 2 miles west of Medicine Hat, are six privately owned gas wells, securing production from the same Medicine Hat sand, from which over 300,000,000 feet was used in 1922 for industrial purposes.

Tests of the Medicine Hat gas show it to be a dry gas of specific gravity 0.565; analyzing, methane, 97.8; ethane, 0.3; carbon dioxide, 0.4; oxygen, nil; nitrogen, 1.5; with no sulphuretted hydrogen. The calorific value is 1046 B. t. u. and, apart from its present uses, the gas would be a valuable source of methane for chemical manufacturing processes using natural gas as a raw material.

Many Islands Lake

The Many Islands Lake Field, some 40 miles northeast of Medicine Hat, is at present, of rather indeterminate value. The original development work was undertaken by the Medicine Hat Development Co., in an effort to secure oil. Some six or seven wells have been drilled. Three of these, the Medicine Hat Development Co., Community Oil Wells, Ltd., and Canadian-American Oil Co., have encountered gas between 1,300 and 1,500 feet. Tests of the gas from the Medicine Hat Development and the Canadian-American wells show some variations; the latter analyzed methane, 96.3; ethane 0.5; carbon dioxide, 0.5; oxygen, 0.3; nitrogen, 2.4. Specific gravity was 0.578, with 1074 B. t. u. and a small percentage, 0.07 of helium. Neither gas revealed any gasoline content.

The Community Oil Wells, Ltd., has apparently encountered a wet gas at a lower horizon; but no authoritative analysis of this gas has been made. This test is now being deepened to 3,000 feet or more as a conclusive test of the petroleum and wet gas possibilities of the lower horizons.

Tentative arrangements have been made with the Sarnia Oil & Gas Co. for construction of a gasoline extraction and carbon black plant, conditional on the development of a specified production of wet gas. Several tests will be drilled by various interests this season.

Bow Island Field

The Bow Island Field covers Townships 10 and 11, Ranges 11 and 12, west of the 4th meridian, an area of some 20 square miles, the chief wells being situated along the south bank of the Saskatchewan River, 10 miles north of Burdett. The first well was drilled in 1908, by the Canadian Pacific Railroad, the field being subsequently developed by the Candian Western Natural Gas Co. By 1913, some 16 wells producing 75,000,000 feet a day were drilled, and a 160-mile pipe line had been laid to Calgary. In all, some 25 wells were ultimately drilled, several having since been abandoned owing to water troubles.

The original rock pressures were about 750 pounds, open flows of 5,000,000 to 7,000,000 feet a day being common. The "Old Glory" well started even better, with 29,000,000 feet a day, at that time the largest gasser in Canada. The principal supply comes from the Dakota sand at about 1,900 feet, though a little gas is secured between 800 and 1,000 feet, in the Belly River shales. In recent years the field has shown marked signs of exhaustion; so that it has been necessary to supplement the Calgary supply from other fields. It has been found advisable, also, to rest the field during the summer months. The minimum field pressure that will transmit gas from the field to Calgary is about 60 pounds.

The Bow Island gas is a dry gas of low specific gravity, around 0.58 to 0.60, tests showing from 946 to 983 B. t. u. A fairly recent analysis shows methane, 91.1; ethane, 0.1; oxygen, 0.1; nitrogen, 8.7. The gas is noteworthy for a helium content ranging from 0.30 to 0.33 in various samples tested; and during the war years an experimental plant for extracting the helium was for a while operated at Calgary.

Drilling for gas has been carried on farther east, at Taber and near Lethbridge, with no results. At Suffield, Alderson, Brooks and Bassano, small gas flows have been encountered, which are utilized locally; the well averaging less than 500,000 feet.

Foremost Field

The Foremost Field is 8 miles south of Foremost Station, on the Lethbridge-Manyberries branch of the Canadian Pacific Railroad. Shortly after the Calgary boom a test drilled to 3,705 feet by United Oils, Ltd., on Section 31-5-10w4, on the south bank of Etzikom Coulee, developed an enormous gas production, which later was drowned out by salt water. Recently the Canadian Western Natural Gas Co., drilling on Section 1-6-11w4, got a big production between 2,180 and 2,190 feet, estimated at 20,000,000 feet a day. Since then two additional wells have brought the production up to about 40,000,000 feet a day, and a pipe line has been laid and the production delivered to the Bow Island-Calgary main line. The gas here is found in the Dakota formation.

Official figures give a rock pressure of 660 pounds, and 15,703,000 feet a day open flow from No. 1 well. The gas has 0.61 specific gravity, with 1018 B. t. u. Samples analyzed: methane, 94.2; ethane 0.8; carbon dioxide, 0.3; oxygen, 0.3; nitrogen, 4.4; helium content, 0.20. The gas is free from sulphur elements. There is every prospect that, with additional drilling, an exceptionally large gas field will ultimately be developed.

In the efforts to extend the Bow Island Field, production has been secured by the Canadian Western Natural Gas Co. in several wells near Barnwell, a sample from No. 2 testing methane, 91.6; ethane, 1.9; nitrogen, 6.5; the latter including 0.36 per cent helium.

Sweetgrass Field

In recent years drilling in the Sweetgrass Field, close to the Montana boundary, has opened yet another producing area. The early drilling was carried on close to Coutts, a series of tests being drilled on or near the Quarantine Reserve, in Township 1-15w4, three of which were carried below 2,000 feet. Some slight showings of oil and gas were encountered, but no commercial production; and drilling operations here have been practically abandoned. To the west, a test drilled by Imperial Oil, Ltd., on Section 5-1-16w4, yielded no oil and only traces of gas.

To the east of Coutts, however, a test by the Canadian Oil & Refining Co., on Section 29-1-11w4, developed, around 2,500 feet, a big gas production, variously estimated from 22,000,000 to 63,000,000 feet open flow, the first named figure being probably closest to the truth. This is a dry gas and not the most suitable for carbon black manufacture, the flow has accordingly been shut off and the test is being carried deeper for oil. About 1 mile farther north, Imperial Oil, Ltd., is drilling a second test somewhat lower on the structure. The result of the first test indicates a probability of an extensive gas field for which there is, however, no immediate market.

Turner Valley Field

The Turner Valley Field, about 35 miles southwest of Calgary, was the scene of the famous Calgary boom. It is today probably unique. It is variously known as the Black Diamond, Sheep River, Dingman and Okotoks Field. The first drilling here was started in 1912, and in May, 1914, oil was encountered in the No. 1 (Dingman discovery) well of the Calgary Petroleum Products Co. Failure to develop commercial production, followed by the war, led to collapse of the oil boom but a few local companies continued work and secured some oil production, which was treated in small refining or stripping plants in the field and was sold at various points in southern Alberta. The discovery well developed wet gas, also flowing by heads a light gasoline oil, probably formed from the wet gas by a natural process of condensation. Later, the Calgary Petroleum Products interests were taken over by the Royalite Oil Co., an Imperial subsidiary, which constructed a modern gasoline absorption plant to treat the wet gas, the first plant of its kind to operate successfully in Canada.

This plant, completed in 1921, has operated since then. It uses an absorption process, operated under patents owned by the Hope Natural Gas Co., of Pittsburgh, Pa. The absorbing medium is a mineral oil, specific gravity 0.88 to 0.82, through which the gas is passed under pressure, first in spray absorbers and then through cylindrical absorbers. The oil, slightly lowered in gravity by taking up the gasoline hydrocarbons, is then distilled and the gasoline fraction separated. The oil is passed through heat exchangers, and then re-circulated. The gas, after being stripped of the gasoline hydrocarbons, was for a time piped through a 6-inch line to Okotoks for delivery through the Bow Island main line to Calgary.

In 1923 the partial completion of the Royalite No. 4 well raised the delivery pressure to about 300 pounds. The production of the plant the previous year was about 400,000 gallons of gasoline, with 1,250,000,000 feet of gas.

Recent Operations

Last year conditions were drastically changed when Royalite No. 4, deepened to about 3,740 feet, developed an estimated wet gas production of 20,000,000 feet a day, from which by means of drips in the pipes an incidental production of 300 bbls. a day of gasoline has been secured. Additional drilling is now being undertaken by the Royalite Oil Co., and the plant will probably have to be extended and rearranged to handle the largely increased production, the drip system being only a temporary expedient. The presence of sulphuretted hydrogen in the gas compelled the temporary discontinuance of deliveries to Calgary of the residual gas, and a purification plant, to enable the gas to be utilized for domestic purposes, is also contemplated. For some time the residual gas has been simply piped a safe distance from the plant and allowed to burn wide open.

The Illinois-Alberta Oil & Refining Co., secured, in its No. 1 well, a considerable wet gas production around 3,000 feet. A plant to separate the gasoline from this gas has been installed. At last reports the gas flow was about 3,000,000 feet a day. An absorption process is employed; the gas passes up a tower packed with special tiles affording a large surface over which the absorbing oil flows down. The oil is then distilled, and afterwards re-circulated through the absorber. No arrangements have been made for utilization of the residual gas. Southern Alberta Oils, Ltd., has a small refining plant from which the production from the old Southern Alberta flowing well is distilled, the

(Continued on Page 94)

Good News for Gas Men

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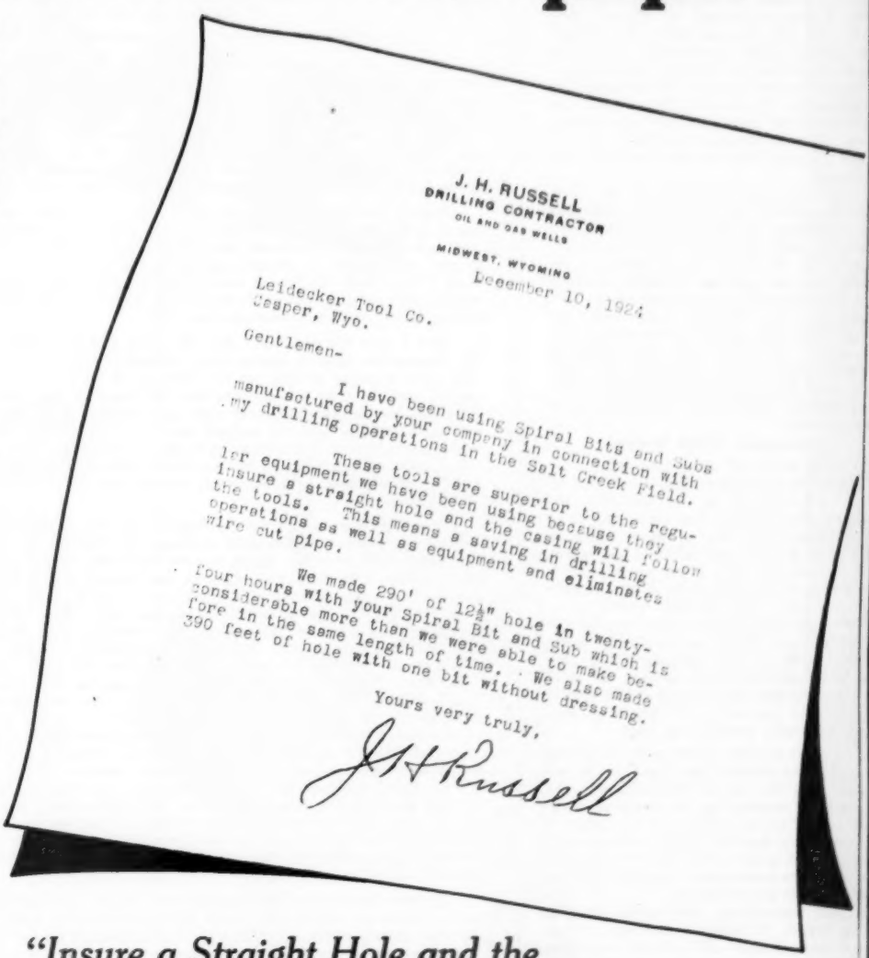

J. H. RUSSELL
DRILLING CONTRACTOR
OIL AND GAS WELLS
MIDWEST, WYOMING

December 10, 1924

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Casper, Wyo.

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We made 290' of 12¼" hole in twenty-four hours with your Spiral Bit and Sub which is considerable more than we were able to make before in the same length of time. We also made 390 feet of hole with one bit without dressing.

Yours very truly,

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How the Gas Industry Won the Public

Real Educational Campaign Instructed Consumers About the Business and Proved the Necessity for Higher Prices.

By Andrew M. Rowley

While the oil business has been the target of innumerable investigations on the part of city, State and Federal authorities and committees, one of the strongest allies of the natural gas business in recent years has been an important branch of the Government—the United States Bureau of Mines. Not only has this bureau aided the natural gas industry and those engaged in it in many ways but it officially endorsed advertising issued through the Natural Gas Association of America, this being the first instance, it is said, of any Government bureau placing its official seal of approval upon any advertisements of any business.

I do not mean to imply all has been smooth sailing for the gas man and that the progress of his business has been along a path of roses without any obstacles in the form of legislation. He really has had greater difficulties to combat than the oil man because of the fact the natural gas business comes under the head of public service corporations and is subject to rules and regulations of State public service commissions which not only fix rates but promulgate other restrictions which must be followed by the gas men.

Consumers Voted Increase

Consequently, it should be of interest to everyone in all branches of both the oil and gas business to consider how the natural gas industry has accomplished so much along the line of cooperation on the part of public officials and the public. That there has been great cooperation is evidenced by the fact citizens in a number of instances have actually voted to increase the prices they were paying for natural gas. There would not be many men left in the oil business if the residents of different cities decided the price of gasoline was too low and would vote to pay higher prices for it. These oil men just naturally would drop dead.

The real success of the work along this line by the natural gas industry in my opinion, is the fact it realized early the fallacy of conducting its business without regard to the public and a number of years ago it took the public into its confidence and made every effort to educate natural gas consumers regarding the entire natural gas industry.

This educational movement was of wide scope. It included meetings of natural gas company officials and representatives of the Government in Washington, especially following the appointment of the natural gas conservation committee by Secretary of the Interior Lane several years ago; meetings of natural gas men and public officials in different cities; interesting club women in the cities in the subject with conferences and demonstrations on proper utilization of natural gas; public demonstrations in stores in downtown districts of natural gas heating and cooking appliances; addresses delivered by gas company officials before civic clubs and different organizations in which details of the costs of producing, transporting and distributing natural gas were explained clearly; advertisements in newspapers and trade publications in which subjects pertinent to natural gas costs and charges were treated in a simple manner; and a constant hammering through constructive publicity in newspapers and trade publications of the value of service and mounting costs of providing this service.

"Service" Made Watchword

In a number of the larger natural gas companies in the East at least, men in executive positions were instructed in the art of public speaking in order that they might be available when called upon to address clubs, civic organizations, chambers of commerce and other gatherings. Classes were formed of these officials and the companies employed competent teachers to instruct the executives in proper speaking.

"Service" was made a watchword and this fact was impressed constantly upon the public in addresses, publicity, demonstrations and, in fact, it formed the basis of a play arranged and staged by one natural gas company with employes as the actors.

No opportunity was lost in getting the story of natural gas before the public. Instead of endeavoring to keep articles out of the papers or trade publications, competent newspapermen were employed to attend meetings, conventions and other gatherings and to see that the facts relating to natural gas were covered fully and presented in such a manner as to make good news for the publications. It was not an infrequent thing for this "natural gas press agent" to get a streamer head clear across the top of the first page in the newspapers. All of which proves good publicity is not so hard to get when the matter is approached in the right way.

Reduced Waste of Gas

When natural gas charges began to mount in every section of the natural gas territory, the companies, through publicity, speeches, demonstrations and meetings showed the consumers that the proper utilization of natural gas would not only give far better service but would actually reduce gas bills even though the gas rates were higher. It was shown approximately 80 per cent of the natural gas metered to a consumer was wasted as a result of inefficient appliances. Trained men in the employ of the companies visited homes and instructed housewives how to set the burners on cooking stoves properly to obtain maximum heat with a minimum consumption of gas; makeshift gas furnaces were shown to be costly because of the waste of gas; and every aid was tendered consumers to obtain maximum service with a minimum of cost.

As a result, while natural gas rates were increased, gas bills to consumers were not as great in proportion and the gas companies had available a greater supply of the fuel for more consumers. Everyone was helped—the consumer by getting better service without any increase in cost even though rates were higher and the gas companis through higher rates without any dissatisfaction upon the part of their customers and also from the fact they had more gas available for sale to other consumers.

Difficulties Fully Explained

Motion pictures were resorted to to demonstrate the difficulties encountered in producing, transporting and distributing natural gas. These were shown in large natural gas consuming centers. Increasing costs to gas companies resulting from longer pipe lines necessitated by reason of the exhaustion of nearby gas fields; the need of installing booster stations to supply the pressure necessary to transport the gas long distances; higher drilling costs and other facts, all of which increased the burden of expense of the gas companies, were told the public in graphic form and so often the consumers gradually came to know more about the natural gas business, probably than of any other public utility.

The public is fair. The natural gas companies realized this fact and gave the public all the information necessary to a clear understanding of the many problems

(Continued on Page 104)

COOPERATION AND CONSERVATION HAVE BEEN DEVELOPMENT OF NATURAL GAS ASSOCIATION

By John B. Corrin

President Natural Gas Association of America

Pausing at its twentieth milestone for a fleeting backward glance over the long trail blazed through the natural gas industry, the Natural Gas Association of America views with a pardonable satisfaction its record of achievement made as the strong ally of the great natural gas industry, an industry that has occupied a foremost position in a wonderfully progressive age. Chief among the many accomplishments of the organization during its score of years has been perhaps the establishment and sturdy development of those twin virtues of "cooperation" and "conservation."

Before the advent of the Natural Gas Association in 1905, those engaged in the natural gas industry lived largely unto themselves, individuals were not acquainted one with the other except within a narrow and limited sphere, cooperation in thought and action if known at all, was little practiced. Then was the law of every man for himself, cut-throat methods in leasing and drilling prevailed along with unfair competition in distribution among individual and company operators.

But a new era dawned! Men of vision and progressive qualities could not tolerate the existing regime, they realized if such a policy were permitted to endure it meant suicide for the industry of which they were a part, and so the Natural Gas Association, now 20 years of age, was conceived and dedicated to the establishment and maintenance of a spirit of fraternity among the members of the natural gas industry, seeking through a friendly exchange of ideas and information to promote scientific and practical knowledge in all matters relating to the construction and management of natural gas properties, and the production, transportation, distribution and sale of natural gas.

The high purposes of the courageous and far-seeing founders of the organization received enthusiastic endorsement throughout the industry and representatives from the many various activities of the industry rallied to the support of the infant association and became active participants in upholding the standards of the organization. The dark age of opposition passed away—the age of cooperation came into being. In the field, under the benign influence of the association, suspicion and hostility have given way in large measure to honesty and helpfulness, while sharp practices and methods are now the exception rather than the rule. The annual meetings of the Natural Gas Association have proved the great value of "getting together," of helping the other fellow; men throughout the industry from coast to coast and from Canada to the Gulf formed intimate acquaintance which ripened into strong and enduring friendships, and, in an atmosphere of friendly association, the respective problems are talked over and solutions sought, information is exchanged, members giving one to the other the benefit of his experience and knowledge with the realization that in the natural gas industry experience is the best teacher and should be passed on to the other for the general good and growth of the industry. Thus, "cooperation" has become one of the foremost lights of the Natural Gas Association, it symbolizes the immortal truth that "man does not live unto himself alone."

Before the birth of this organization, waste of natural gas to an enormous degree prevailed. The great fuel made its bow within an arena filled with an hostile audience; it was the football of the oil men, to be cuffed and kicked about, a pestilence to be stamped out ruthlessly. And so the appalling waste of nature's wonder fuel started, to be continued throughout the long years by means of improper well appliances while thousands of open flambeau torches flared high to light the heavens by night and vie with the sun by day; leaks large and small and without number in lines of all sizes attracted no attention and the waste mounted high through the medium of open grates, improper fixtures and inefficient appliances in the home and factory, through low rates, ignorance and abuse. In a land of plenty, natural gas was considered only as another of our great natural resources, a gift eternal that would never play out.

But no sooner had the Natural Gas Association been established than it gave heed to the voice of the few crying in a wilderness of doubt and derision: "Prepare, ye, for the failure of this great gift of nature," and the great conservation program went into action, fostered by the organization, and stands as one of the brilliant beacon lights of the association. By precept and practice, and with all its force, it sounded the clarion call of true conservation, not a miserly hoarding of the supply, but elimination of the sources of waste and use of the fuel in a way that brings maximum return with minimum waste. Its vigilant and never-ceasing efforts have succeeded in remarkable degree so that today the priceless value of natural gas is universally appreciated by operator and consumer, the utility and public, so that efficient appliances are in widespread demand and use, and the waste of this wonder fuel has been reduced to a minimum.

Truly, "cooperation" and "conservation" stand as the two great beacon lights on the 20-year progressive pathway hewn by the Natural Gas Association and, with wicks kept neatly trimmed and lamps brightly polished, they light the way to further achievement on the road that stretches ahead as they have on the road that lies behind.

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Illinois Glass Company

Established 1873

ALTON, ILLINOIS

BUREAU OF MINES REFINERY STATISTICS FOR MARCH

Compiled by G. R. Hopkins Petroleum Economist

During the month of March the Bureau of Mines received reports from 294 operating refineries, with an aggregate daily crude oil capacity of 2,393,567 bbls., running to stills a daily average of 1,916,360 bbls. of both foreign and domestic crude oil, or 80.1 per cent of their daily operating capacity, an increase of 1.0 per cent over the refinery operations of the previous month, but a decrease of 3.0 per cent from the operations of March, 1924.

Gasoline

The production of gasoline during the month of March was 853,574,214 gallons, a daily average of 27,534,652 gallons. Although this represents the highest monthly total ever recorded, the daily average production is a decrease from the record February figures of 700,000 gallons per day, or 2.5 per cent.

Domestic demand was 620,635,551 gallons, a daily average of 20,020,000 gallons, this being an increase over the previous month of 650,000 gallons, or 3.4 per cent. It also represents an increase over the corresponding period of a year ago of 33 per cent. Exports during the month amounted to 123,755,783 gallons, the highest figure ever recorded.

Stocks on hand continued their rapid increase, standing March 31 at 1,610,868,168 gallons, or 125,000,000 gallons above the stocks of the previous month. These stocks represent 80 days' supply at the March rate of domestic demand. This compares with 105 days' supply on hand a year ago, and 77 days' supply on hand a month ago.

Kerosene

The production of kerosene during the month was 220,000,000 gallons, a daily average of 7,100,000 gallons. Exports were 82,000,000 gallons, a material increase over the previous month. Stocks continued to increase standing March 31 at 441,000,000 gallons, the highest figure since the early part of 1921.

Gas and Fuel Oils

The production of gas and fuel oils was 1,204,000,000 gallons, a daily average of 38,835,665 gallons. These figures are record figures, representing an increase over the previous record figures of December, 1924, of .4 per cent. Domestic demand was 1,118,000,000 gallons, a daily average of 36,070,000 gallons. Stocks on hand showed comparatively little change during the month, standing March 31 at 1,648,000,000 gallons.

Lubricants

The March production of lubricants was 118,000,000 gallons, the highest monthly production ever recorded, and a slight increase in daily average production over the record figures of the previous month. Exports were 37,700,000 gallons, a material increase over the previous month. Stocks continued to increase, the total at the end of the month, 290,000,000 gallons, being the highest figure ever recorded.

Wax

The production of wax was 53,000,000 pounds, a daily average of 1,730,000 pounds, this being an increase over the previous month of 1.4 per cent. Exports were 29,000,000 pounds. Domestic demand fell off 4,000,000 pounds and stocks were increased 6,000,000 pounds, standing March 31 at 95,000,000 pounds.

TABLE OF OPERATIONS BY DIVISIONS—MARCH, 1925

Division—	No. Plants Reporting	Capacity Bbl.	Daily Average Crude runs Bbl.	% March	Runs to Cap. February
East Coast	18	459,000	362,543	79.0	76.9
Pennsylvania	50	83,660	176,254	85.2	94.9
Indiana and Illinois	25	206,800	176,254	85.2	94.8
Oklahoma and Kansas	62	351,400	250,602	71.3	74.3
Texas	59	439,830	384,609	87.4	91.1
Louisiana and Arkansas	19	157,740	168,940	107.1	99.9
Rocky Mountain	16	94,917	54,843	57.8	64.4
California	42	600,220	449,541	74.9	69.2
United States	294	2,393,567	1,916,360	80.1	*79.1
Texas Gulf Coast	15	301,500	283,121	93.9	99.1
Louisiana Gulf Coast	5	116,100	127,116	109.5	95.8

COMPARATIVE ANALYSIS FOR MARCH, 1925

	Production	*Imports	*Exports	Stocks End of period	Domestic Demand
Gasoline—					
March, 1924	743,248,292	13,223,836	85,090,057	1,587,584,872	467,181,088
January, 1925	831,652,370	14,447,766	98,961,932	1,330,235,880	596,405,590
February, 1925	790,441,679	12,033,161	103,141,310	1,487,142,423	542,426,977
March, 1925	853,574,214	14,542,865	123,755,783	1,610,868,168	620,635,551
Kerosene—					
March, 1924	200,038,627	20,835	53,036,540	330,009,861	123,740,062
January, 1925	247,726,852	72,740	70,347,841	378,598,381	137,679,149
February, 1925	214,421,091	74,450	55,343,872	419,581,895	118,168,155
March, 1925	219,908,447	41,259	81,865,888	440,870,013	116,795,700
Gas and Fuel Oils—					
March, 1924	1,114,411,735	48,619,520	134,973,335	1,487,463,907	1,031,767,019
January, 1925	1,171,402,042	44,246,327	103,091,940	1,619,638,131	1,163,377,236
February, 1925	1,058,724,840	55,554,524	109,457,541	1,639,105,022	989,404,332
March, 1925	1,203,905,619	55,319,508	132,571,333	1,647,523,327	1,118,235,469
Lubricants—					
March, 1924	101,126,865	29,436	40,664,791	249,418,250	64,584,111
January, 1925	103,164,250	58,147	39,755,293	268,699,396	52,103,946
February, 1925	100,502,790	32,270	26,949,884	275,253,365	67,026,207
March, 1925	118,493,938	74,022	37,658,444	290,055,409	66,112,472
Wax—					
March, 1924	47,597,495	279,465	29,625,808	125,016,587	22,346,571
January, 1925	54,310,455	1,029,814	31,928,829	88,970,109	24,107,739
February, 1925	47,812,111	1,349,492	25,601,139	89,299,300	23,231,273
March, 1925	53,642,442	424,957	29,012,287	95,061,076	19,293,336
Crude Oil— (a) (Barrels	of 42 gallons)			(b)	
March, 1924	59,729,000	8,631,000	1,484,000	377,281,183	61,661,089
January, 1925	59,519,000	7,025,000	1,149,000	391,232,854	67,107,331
February, 1925	54,045,000	5,580,000	1,122,000	392,029,175	57,706,679
March, 1925	60,130,000	6,375,000	1,057,000	391,798,987	66,678,188

Notes: *From Bureau of Foreign and Domestic Commerce. Exports include shipments to Alaska, Hawaii and Porto Rico, with exception of wax.
(a) From United States Geological Survey (revised figures used when available.)
(b) Pipe line tank farm and refinery prices.

RUNS TO STILLS AND OUTPUT OF REFINERIES IN THE UNITED STATES

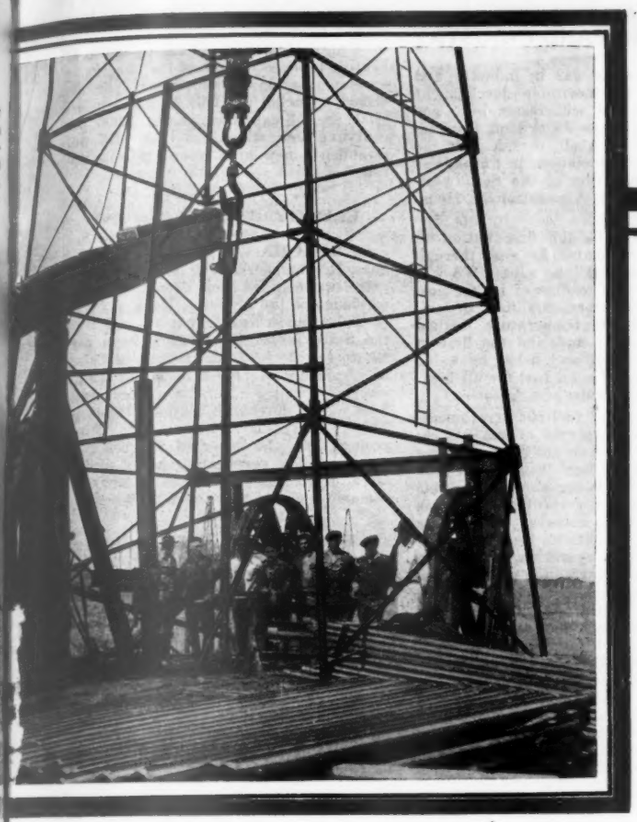
Oils Run to Stills (Barrels)

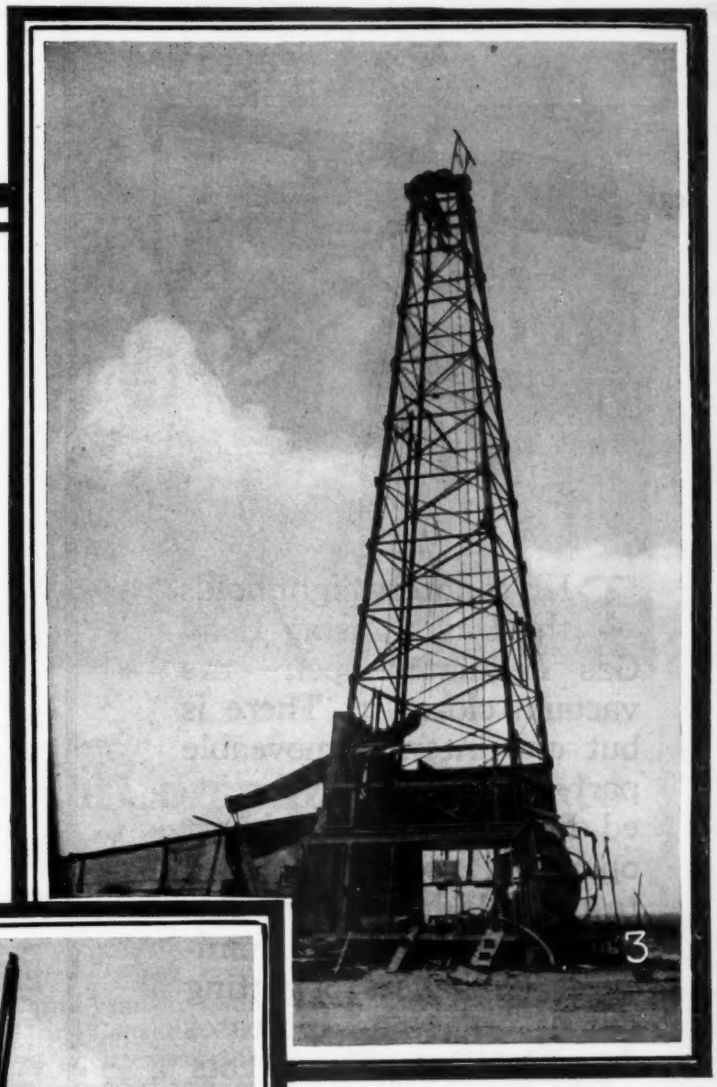
	Crude Oils— Domestic	Crude Oils— Foreign	Unfinished Oils	Natural Gas Gasoline	Total Oils Run to Stills
East Coast	8,876,774	2,362,046	711,914	241,449	12,192,183
Pennsylvania	2,139,881	.....	68,623	29,875	2,238,379
Indiana & Illinois	5,463,866	.....	207,167	88,913	5,759,946
Oklahoma and Kansas	7,768,654	.....	208,055	231,836	8,208,545
Texas	11,197,428	725,460	438,495	362,168	12,723,564
Louisiana and Arkansas	4,186,220	1,050,914	58,375	42,118	5,337,627
Rocky Mountain	1,700,120	.....	629,595	69,746	2,399,461
California	13,935,793	.....	681,251	335,470	14,952,514
Total United States	55,268,746	4,138,420	3,003,478	1,401,575	63,812,219
Daily average, Mar. 1925	1,782,863	133,497	96,886	45,212	2,058,458
Daily average, Feb. 1925	1,777,660	114,941	109,941	46,909	3,049,451
Texas Gulf Coast	8,051,299	725,460	293,250	330,430	9,400,439
Louisiana Gulf Coast	2,889,690	1,050,914	44,872	.....	3,985,476

Output and Losses

	Gasoline (Gallons)	Kerosene (Gallons)	Gas and Fuel Oils (Gals.)	Lubricants (Gallons)	Wax (Pounds)
East Coast	138,917,949	52,766,148	235,358,674	27,806,620	22,058,604
Pennsylvania	35,481,129	11,898,604	20,367,588	17,739,546	7,424,522
Indiana and Illinois	114,670,512	21,277,621	69,232,787	10,352,278	7,139,819
Oklahoma and Kansas	157,691,918	31,171,919	124,371,259	8,945,670	4,558,331
Texas	185,127,095	49,362,772	219,394,450	28,338,702	5,130,532
Louisiana and Arkansas	50,252,724	21,492,271	109,019,957	3,427,061	4,063,136

(Continued on Page 92)





4—This is how the drill stem and jars looked after they were fished out of the slush pit. (See story No. 3.)

5—One of the heavy beams of the water table was struck by the drill stem and jars. This is the way it looked. See story No. 3.)

MOORE
DERRICKS

THE counterweight holds the Davis Casing Head Gas Regulator open — the vacuum closes it. There is but one internal moveable part—a balanced bevel-seated disc with graduated port openings, securely coupled to a flexible diaphragm. This simplicity in design minimizes the chances for getting out of order and increases dependability. Trust your well vacuum control to this simple Davis Automatic Regulator. It gives individual regulation regardless of main line vacuum.

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UNIVERSAL GAS USE TO EXPAND INDUSTRY

Universal use of gas in industry and the home is an inevitable development of the future and will result in a gas industry three times its present size, according to H. C. Abell, president of the American Gas Association, in an address before the convention of the Southwestern Public Service Association at Houston, Tex.

"America will be the first nation to have its homes heated by gas, thermostatically controlled," he said. "We will be the first nation to discard ice for gas-operated refrigerators, the first to universally adopt the temperature method of cooking food by gas, and the first to outlaw smoke, soot and ashes by using gas fuel instead of solid fuel for all heating processes in shops and factories."

"This progress of fuel conservation depends upon the progress of gas utilization," he said. "We do not burn anything until it has first been transformed into a gas. The public is beginning to see this truth and is acting accordingly. The gas industry labors incessantly to conserve the sources of the nation's heat. Its whole plan and scope of operation is based on the most efficient extraction of heat from its sources, and its most economical distribution and utilization. The industry has grown because it has saved coal, labor and money for the people."

Mr. Abell said the progress of the gas industry during the last two decades has been a record of peak after peak, with three times as much gas consumed during the last 10 years as during the preceding 10. Sales for 1924 were more than 400,000,000,000 cubic feet, he said, with 440,000 new customers added to the lines of gas companies.

"Unprecedented use of gas in industrial heating processes is one of the remarkable developments in recent years," he declared. "During the last 10 years industrial use of gas has jumped 1,000 per cent and indications are that 1925 will establish a new high record in consumption."

ELECTED VICE PRESIDENT

OKLAHOMA CITY, Okla., May 9.—John R. Chamberlain of New York City, petroleum engineer, has been elected vice president of the Monarch Royalty Corp., of Tulsa, according to papers filed with the State Issues Commission for a permit to sell stock. J. M. Hayner, of Tulsa, is president; E. R. Willson, of Tulsa, secretary, and A. T. Alison, vice president of the Exchange National Bank of Tulsa, is treasurer. Forest Rees, Tulsa geologist, is a member of the board of directors. The corporation has a capital stock of $2,050,000. Of this, $50,000 is common and the remainder preferred.

L' ANNUAIRE du PETROLE

L'Annuaire du Petrole for 1924-1925 is a directory containing data concerning about 200 oil companies of French nationality or of interest to the French market. It covers in detail the origin, technical development and financial standing of the companies, members of boards of directors, accountants, and managers and statistical data concerning the French petroleum industry. It is published by E. Mawies, 60, Boulevard de Clichy, Paris (18e).

BUREAU OF MINES REFINERY STATISTICS FOR MARCH

(Continued from Page 88)

Rocky Mountain	43,504,090	8,309,121	31,676,676	1,877,216	3,176,797
California	127,928,797	23,629,991	400,484,228	10,006,845	.....
Total United States	853,574,214	219,908,447	1,203,905,619	118,493,938	53,642,442
Daily average, Mar. 1925	27,534,652	7,093,821	38,835,665	3,822,385	1,730,401
Daily Average, Feb. 1925	28,230,060	7,657,896	37,811,601	3,589,385	1,707,575
Texas Gulf Coast	136,190,046	40,914,605	154,021,204	26,518,467	4,772,655
Louisiana Gulf Coast	40,621,207	18,863,451	71,312,464	3,133,229	4,063,136
	Coke (tons)	Asphalt (tons)	Othr Fin'd. Prod. (gals.)	Unfinished Prod. (gals.)	Losses (bbls.)
East Coast	14,959	69,477	3,082,168	5,165,519	390,774
Pennsylvania	1,366	63	1,062,212	895,350	120,939
Indiana and Illinois	21,750	17,859	7,323,782	6,438,316	193,693
Oklahoma and Kansas	7,173	13	1,252,285	7,112,261	280,367
Texas	19,614	23,901	1,966,723	24,428,040	379,627
Louisiana and Arkansas	9,898	23,520	5,192,708	22,942,266	83,450
Rocky Mountain	4,490	1,412	30,037	12,335,861	24,174
California	.....	31,395	6,185,186	*46,110,226	149,838
Total United States	79,250	167,640	26,095,101	125,427,839	1,622,862
Daily average, Mar. 1925	2,556	5,408	481,777	4,046,059	52,350
Daily average, Feb. 1925	2,698	4,407	646,042	4,013,875	52,958
Texas Gulf Coast	19,274	23,901	1,786,185	12,870,772	305,134
Louisiana Gulf Coast	9,658	22,807	5,020,899	18,767,819	37,664

*Includes 9,434,367 bbls. Tops produced.

STOCKS AT REFINERIES IN THE UNITED STATES

Oils to be Run to Stills (Barrels)

	Crude Oils—Domestic	Crude Oils—Foreign	Unfinished Oils	Ttl. Oils to Run to Stills
East Coast	8,081,012	2,664,500	6,178,448	16,923,960
Pennsylvania	1,189,336	.....	809,398	1,998,734
Indiana and Illinois	1,478,916	.....	2,890,129	4,369,045
Oklahoma and Kansas	4,939,267	.....	1,647,539	6,586,806
Texas	5,507,190	519,286	6,669,563	12,696,039
Louisiana and Arkansas	5,225,038	1,930,110	2,103,666	9,258,814
Rocky Mountain	1,077,842	.....	1,405,811	2,483,653
California	11,029,490	.....	*8,724,649	19,754,139
Total United States	38,528,091	5,113,896	30,429,203	74,071,190
United States total Feb. 28, 1925	38,703,721	4,966,454	29,409,488	73,079,663
Texas Gulf Coast	4,373,734	519,286	6,021,946	10,914,966
Louisiana Gulf Coast	4,811,627	1,930,110	1,928,369	8,670,106
Products—	Gasoline (Gallons)	Kerosene (Gallons)	Gas and Fuel Oils (Gals.)	Lubricants (Gallons)
East Coast	330,433,423	87,705,786	193,704,378	98,906,766
Pennsylvania	47,244,034	14,197,088	25,654,772	31,301,332
Indiana and Illinois	232,444,134	50,939,756	32,436,064	20,154,588
Oklahoma and Kansas	193,124,241	34,094,405	113,916,889	16,196,395
Texas	214,065,250	127,392,975	285,272,345	75,460,360
Louisiana and Arkansas	111,463,561	53,870,233	129,859,460	7,946,350
Rocky Mountain	144,831,058	15,353,199	20,913,381	6,651,008
California	337,252,467	57,216,571	845,766,038	23,438,610
Total United States	1,610,868,168	440,870,013	1,647,523,327	290,055,409
United States total Feb. 28, 1925	1,487,142,423	419,581,895	1,639,105,022	275,258,365
Texas Gulf Coast	190,696,702	113,246,161	227,439,561	74,192,535
Louisiana Gulf Coast	105,485,082	53,147,972	107,064,261	7,035,118
	Wax (lbs.)	Coke (tons)	Asphalt (tons)	Othr Fin'd. Pdts. (Gals.)
East Coast	37,309,355	18,458	62,305	6,074,857
Pennsylvania	20,507,485	925	86	1,366,372
Indiana and Illinois	12,179,072	13,440	11,253	19,675,178
Oklahoma and Kansas	4,236,632	25,040	93	3,955,687
Texas	8,167,125	39,817	14,683	116,669
Louisiana and Arkansas	5,712,181	24,191	19,128	3,967,736
Rocky Mountain	6,945,556	12,073	5,935	342,998
California	13,670	.....	17,294	356,341
Total United States	95,061,076	133,944	130,777	36,356,338
United States total Feb. 28, 1925	89,299,300	125,195	116,847	32,593,876
Texas Gulf Coast	7,899,546	33,947	14,683	34,136
Louisiana Gulf Coast	5,712,181	23,025	19,088	1,603,304

*Includes 5,883,745 bbls. Tops in storage.

Oil Companies Operating 10 or More White Trucks

American Petroleum Co.	29
Anglo-Mexican Petroleum Co., Ltd.	10
Atlantic Refining Co.	546
*Barnsdall Corporation	24
Brooks Oil Company	12
Buckeye Pipe Line Company	29
California Petroleum Co.	18
Canfield Oil Company	24
Carter Oil Company	22
*Cities Service Company	113
Comar Oil Company	23
Commercial Oil Company	10
Continental Oil Company	123
East Ohio Gas Company	22
Empire Gas and Fuel Company	13
Galena Signal Oil Company	17
General Petroleum Corporation	94
Gerkins Oil Company	13
Great Southern Refining Company	11
Gulf Production Company	45
*Gulf Refining Company	1738
Gypsy Oil Company	30
Hope Natural Gas Company	14
Huasteca Petroleum Company	27
Humble Oil & Refining Company	53
Imperial Oil, Ltd.	93
Indian Refining Company	11
Indian Territory Illuminating Oil Co.	12
International Petroleum Company	10
International Petroleum Co., Ltd.	27
Julian Petroleum Corporation	22
Lily White Gasoline Company	20
Magnolia Petroleum Company	97
Manhattan Oil Company	13
Marland Refining Company	40
Mexican Gulf Oil Company	26
Mexican Petroleum Co., Ltd. of Delaware	24
Mid-Kansas Oil & Gas Company	10
Midwest Refining Company	26
National Refining Company	84
New National Oil Company	18
Ohio Oil Company	31
Oklahoma Pipe Line Company	14
Ozark Pipe Line Company	20
Pacific Oil Company	16
Pan American Petroleum Company	20
*Pan American Petroleum & Tr. Co.	58
Petroleum Heat & Power Company	13
Pierce Petroleum Corporation	225
Prairie Oil & Gas Company	33
Prairie Pipe Line Company	71
*Pure Oil Company	28
Reed Oil Corporation	10
Richfield Oil Company	41
Rio Grande Oil Company	20
*Roxana Petroleum Corporation	289
*Royal Dutch Company	20
Shaffer Oil & Refining Co.	63
Shell Oil Company of California	176
Sinclair Consolidated Oil Corp.	23
Skelly Oil Company	16
Southern Oil Corporation	12
Standard Oil Co. of Brazil	13
Standard Oil Co. of California	256
Standard Oil Co. of Indiana	234
Standard Oil Co. of Kentucky	465
Standard Oil Co. of Louisiana	207
Standard Oil Co. of Nebraska	28
*Standard Oil Co. of New Jersey	193
Standard Oil Co. of New York	842
Standard Oil Co. of Ohio	162
Standard Pipe Line Co.	18
Stoll Oil Refining Company	15
Sun Oil Company	65
Texas Company	188
Tidal Oil Company	19
*Tide Water Oil Company	63
Tide Water Oil Sales Corp.	11
Transcontinental Oil Company	41
Union Oil Co. of California	759
United Natural Gas Company	12
Vacuum Oil Company	27
West India Oil Company	27
Wilshire Oil Company	16
Winona Oil Company	14
Wofford Oil Company	30
Total	8,497

*Exclusive of subsidiary or affiliated companies individually listed.

86 Oil Companies Operate 8497 White Trucks in Fleets of 10 or More

Year after year the leading oil companies of the United States and Canada continue to add to their White Truck fleets. Their experience has taught them that Whites can be depended upon for uninterrupted transportation. More White Trucks serve the oil industry than trucks of any other high-grade make.

As evidence of satisfaction with White Truck performance 86 oil companies, herewith listed, operate 8,497 White Trucks in fleets of *10 or more*. Hundreds of other Whites serve the industry in fleets of less than 10—indisputable evidence of White Truck leadership. These owners know truck value. Their judgment is your own best guide in spending your transportation dollar.

Let us send you free the 1925 White Roll Call booklet listing 837 concerns in all lines of business operating 31,093 White Trucks in fleets of 10 or more.

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Cleveland

WHITE TRUCKS

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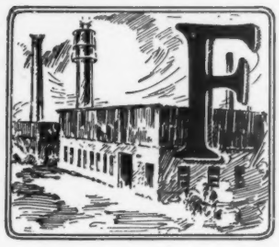

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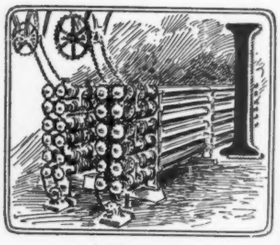
Gas Filled



IN line with this policy of close cooperation with the OIL and GAS industry, we extend you a cordial invitation to examine our exhibit in BOOTHS 81 and 82 on the Steel Pier, at Atlantic City, New Jersey, during the annual convention of the Natural Gas Supply Men, which will be held in conjunction with the annual meeting of the Natural Gas Association of America from May 18th to 22nd, inclusive. We would welcome the opportunity to talk things over with you at this time.

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BRISTOL'S RECORDING INSTRUMENTS

NATURAL GAS FIELDS OF WESTERN CANADA

(Continued from Page 82)

products secured being gasoline, kerosene and fuel oil. About 65 per cent of gasoline is secured from this crude.

Analysis of the gas from Royalite No. 1 (Dingman) well shows: methane, 71.8; ethane, 25.0; carbon dioxide, 2.1; oxygen, 0.3; nitrogen, 0.9, with 0.70 specific gravity and 1274 B. t. u. Analysis of the gasses in other wells shows varying proportions, but a similar high ethane content, No. 3 yielding 30.3 of ethane. No. 3 also gave 0.06 per cent of helium. Analysis of No. 3 and the earlier production from No. 4 showed 2.1 to 2.2 pints of gasoline hydrocarbons per 1,000 feet of gas.

The formations in this field are greatly disturbed and faulted, making drilling a slow and tedious process. So far most of the work has been done with standard tools; but the Royalite Oil Co. is trying the experiment of using combination rotary and standard outfit in its new drilling. The usual results secured in Royalite No. 4 have aroused widespread interest in this field, and extensive drilling is promised for the coming season.

Viking Field

In east central Alberta, the Viking Field, some 75 miles east of Edmonton, covers Townships 48 and 49 Ranges 12 and 13, west of the 4th meridian. Drilling so far has centered around a point 6 miles north of the town of Viking, some 11 producing wells having been drilled, with no dry holes. The gas field appears likely to extend to the north of Birch Lake. The first well was drilled in 1914 by Edmonton interests, the field later passing to the Northern Alberta Natural Gas Development Co., which, however, failed to reach a satisfactory agreement with the city of Edmonton. In 1923, Northwestern Utilities, Ltd., took over the project and a pipe line was laid to Edmonton, a distributing plant constructed and gas delivered to Edmonton and smaller towns along the route. The pipe line is about 80 miles in length, gas being piped from the field to a central pressure reducing station, where it passes into the main 10-inch pipe line at about 300 pounds pressure. At Clover Bar, just outside Edmonton, the pressure is further reduced to 20 pounds and the gas passed into high pressure belts in the city, from which it enters the supply lines at a few ounces pressure.

In the Viking Field, production is secured between 2,203 and 2,435 feet, with about 900 pounds initial rock pressure. The open flow of individual wells ranges from 1,350,000 to 9,000,000 feet a day, with an aggregate of about 47,000,000 feet a day from the first 10 wells.

Irma-Wainwright

The Irma-Wainwright Field, noteworthy from its incidental promise of commercial oil production, lies east of the Viking Field between the towns of Irma and Wainwright, along the Battle River. The discovery of heavy crude in apparently commercial quantities in the fall of 1923 has led to considerable new drilling, with oil as the primary objective, and the first crude shipment in commercial quantities was made this winter. Territory has been extensively leased, and considerable development work is in prospect for the coming season.

The first well in this area was drilled by the Viking-Battle Creek Syndicate in 1920, on Section 4-45-8w4, encountering a large gas flow. Imperial Oil Ltd., took over the syndicate's interests and drilled its No. 1 Fabyan, with 5,000,000 feet a day. This well, often referred to as the "mystery well," has been much discussed owing to the blowing off of an emulsion of heavy oil and water when it is allowed to blow open at intervals. The oil, however, is a negligible factor, and commercially of no value. The gas from this well analyzed: methane, 88.6; ethane, 2.6; carbon dioxide, 0.3; oxygen, 0.8; nitrogen, 7.7; helium, 0.06; with 0.61 specific gravity, and 992 B. t. u. Rock pressure, after blowing off for an hour, was 650 pounds. The gas is a dry gas, with no trace of gasoline.

Subsequent drilling has resulted in a number of productive wells, including British Petroleums' No. 1, Section 36-45-7w4, and Maple Leaf Oil & Gas Co.'s No. 1. In the British Petroleums No. 1 the gas sands were found at 1,683 feet, at 1,800 feet and at 2,010-15 feet. This gas analyzed similarly to the gas from the Imperial well, and, though widely reported to be wet gas, revealed no gasoline content. British Petroleums' Nos. 2, 3 and 4 all indicate oil, Nos. 2 and 4 being apparently commercial wells. Carbon black projects for utilizing the gas from the Irma-Wainwright Field have been discussed, and one company has procured a permit for its manufacture; but no definite steps have yet been taken to erect a plant.

Northern Alberta

In northern Alberta, there is an extensive gas production from several distinct areas, with no markets in sight. In the Athabaska district, in 1897 the Geological Survey of Canada drilled a well on the Athabaska River, 2 miles above the mouth of Pelican River. This encountered a heavy gas flow in the Dakota sand at about 800 feet. This well was allowed to blow open for something like 20 years, burning most of that time, before it was finally capped. About 1912-1914, two other wells were drilled in the same area by the Pelican Oil & Gas Co., of Edmonton, encountering gas in the same sand at 800 feet. Analysis of this gas showed: methane, 83.5; carbon dioxide, 1.0; oxygen, 2.9; nitrogen, 12.6; with 850 B. t. u. There is no doubt that an extensive gas field exists in this area, but there is no immediate or even prospective market for the gas, which has apparently no trace of gasoline content. Farther down the Athabaska River, especially north of McMurray, a number of wells have been drilled, but no oil and little gas has been secured.

Peace River District

Since about 1917 there has been intermittent drilling in the Peace River district, chiefly in the 12 to 15 miles north of the town of Peace River. Slight showings of heavy asphaltic oil have been encountered, but though there seems to be considerable gas, no good gas sands free from heavy flows of water have been struck. The water conditions cause much trouble in drilling, several rigs having been completely destroyed by water at high pressure gushing from water sands penetrated by the drill. Strong flows of gas have been struck in several wells with rock pressures of 600 to 700 pounds but the gas is almost always accompanied by water. Canadian Petroleums, Ltd., in a test on Section 11-85-21w5, has succeeded in getting below the water vein and is reported down 3,000 feet. A test made at Ottawa of gas from this field showed: methane, 77.2; carbon dioxide, 1.8; oxygen, 3.7; nitrogen, 17.3. It is a dry gas. The field is near Edmonton, Dunvegan & British Columbia Railroad, and is fairly well situated for establishment of a carbon black plant if sufficient gas of suitable composition can be rendered available.

In the Pouce Coupe district, in the northern foothills west of Peace River, Imperial Oil, Ltd., in 1922 drilled a well on Section 26-80-13w4, which at 1,676 feet encountered 10,000,000 feet a day. The well after being drilled to 2,733 feet was mudded off and the gas is at present shut in. Two tests undertaken by other interests are still unfinished. No information is available as to the gasoline content or composition of the Pouce Coupe gas, but all indications point to an extensive field with, unfortunately, no immediate market, the territory being isolated from railroad communication and rather difficult of access.

Commercial Utilization

Commercial utilization of the Alberta gasses has been confined to some of the fields in southern and east central Alberta. In the south, the municipality of Medicine Hat has its own system utilizing the supply from the Medicine Hat Field; and the Dominion Glass Co. distributes the production from the Redcliffe Field. The Canadian Western Natural Gas Co. supplies Calgary, Lethbridge and other communities in the south from the Bow Island, Barnwell and Foremost Fields, and has arrange-

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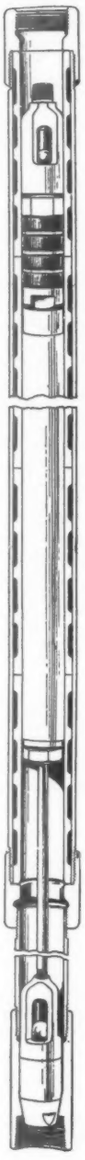

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IMPROVED SAND PUMP

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Its popularity has spread rapidly since it was first introduced in Eastern fields. The one reason for its present wide distribution in service is *good results.*

This famous pump is designed to meet all conditions, and does, with an unusual degree of satisfaction. In every way it is representative of *The Larkin Line* and reflects the way in which all our Drilling and Fishing Tools have fulfilled the needs of the Industry.

Today *The Larkin Line* is more complete than ever, but it still has its basis in the one characteristic we have always held fundamental—*thorough reliability in the performance of the duty for which intended.*

If this is what you want, get *Larkin Products* from any of the leading supply stores.

Our new catalogue No. 25 describes The Larkin Line. May we send you a copy?

LARKIN & CO.

BUTLER, PA., U. S. A.

ments for utilizing the residual gas from the Turner Valley Field. In east central Albert, Northwestern Utilities, Ltd., supplies the city of Edmonton and intermediate points from the Viking Field. The city of Wetaskiwin has its own distributing system, utilizing the production of a few local wells. Except for the Medicine Hat and Redcliffe Fields, there is no extensive utilization of natural gas for industrial purposes, the policy having been to conserve the supply for domestic use.

The possibilities of gasoline extraction from the Alberta gasses have been widely discussed, but investigation shows that all the gasses tested, except those in the Turner Valley Field, are dry gasses. Three samples in the Turner Valley Field showed approximately 2 pints of gasoline to 1,000 feet and a fourth showed 4 pints. In the Many Island Lake Fields there seems a strong probability that the lower sands in the Community Oil Wells, Ltd., test have produced wet gas, but samples have not been available for Government tests. So far, none of the gasses in the Irma-Wainwright Field have shown gasoline in commercial quantities, and the natural gasoline enterprises are limited to the two plants in the Turner Valley Field.

Carbon Black

Imports of carbon black and allied products into Canada in 1923 totaled 3,743,409 pounds valued at $446,812. There are extensive and growing industrial uses for the product in Canada.

Under the Dominion carbon black regulations framed a couple of years ago, natural gas cannot be utilized for carbon black manufacture where there is an immediate or reasonably prospective demand for domestic or other industrial purposes. Thus, outside small local areas, the possible carbon black fields in Alberta are the Many Islands Lake, Irma-Wainwright, Athabaska, Peace River and Pouce Coupe Fields. The Many Islands Lake Field may, in the comparatively near future, be required to supplement the Medicine Hat supply.

In the Irma-Wainwright Field, the gas is chiefly methane, with no gasoline content, but as Edmonton will secure its supply for many years from the Viking Field, there is no immediate objection in conservation circles to the use of the gas for carbon black manufacture. Railway facilities are good.

Near Craigmyle, in southern Alberta, the Prairie Natural Gas Co. has developed a small production from some shallow wells and is planning to utilize the gas for making carbon black. The supply so far secured seems, however, too small for a commercial plant. In the Peace River and Pelican Rapids areas there is no immediate or prospective market for large quantities of gas, though transportation difficulties may interfere with the undertaking as a commercial enterprise. The ethane content of the gasses in most of the available areas is rather low. Carbon black permits must be secured from the Department of the Interior at Ottawa.

Helium

The possibility of producing helium in commercial quantities from the Alberta gasses was investigated in 1916, and in 1919 an experimental plant was operated at Calgary. Peace-time conditions seemed to render the enterprise unnecessary, but the Calgary plant is still in existence.

Tests of Alberta gasses for helium content show the following results:

Medicine Hat, 0.11 to 0.13; Many Islands Lake, 0.07; Bow Island, 0.29 to 0.34; Barnwell, 0.36; Turner Valley, 0.01 to 0.06; Foremost, 0.20; Viking, 0.05 to 0.07; Wainwright, 0.09; Athabaska, 0.002; Peace River, 0.12.

It is estimated that from the present Bow Island gas supply an aggregate of not more than 6,000,000 feet per annum of helium is available. The Calgary experiments showed the possibility of successfully recovering helium from a low percentage helium gas, and on these experiments the cost of a large scale plant was estimated at $50 per 1,000 feet of 95 per cent pure helium. Outside of the Bow Island and Barnwell areas, the helium content, except perhaps in the Foremost Field, seems too low for commercial utilization.

ODD VALUATION POINT IN RATE MAKING CASE

The gate rate of 25 cents per 1000 feet fixed by the Oklahoma Corporation Commission for the Pressure Oil & Gas Co., which transports natural gas to Chelsea and Claremore, was sustained by the Oklahoma Supreme Court in the case of the Pressure Oil & Gas Co. versus Tri-City Gas Co. and others. The syllabus lays down the rules that are usually followed in determining rate cases in Oklahoma, that both original cost and reproduction cost, less depreciation, together with other facts and circumstances should be considered in fixing the rate; also that the burden is upon the appellant to overcome the presumption that the commission's order is fair and reasonable. The Pressure Oil & Gas Co. filed its application for an increase from 25 cents to 30 cents. After a full and complete hearing the commission issued an order, effective May 1, 1924, fixing a rate of 25 cents. This order is sustained in the opinion by Justice Phelps.

The opinion states that there was an irreconcilable conflict in the evidence of the commission's and company's engineers as to the rate-making valuation. The commission's engineer found the combined value of the Pressure Oil & Gas Co. and the Unity Gas Co., which owns field gathering lines and is under common ownership with the Pressure company, to be $68,595, while the company's engineer found the valuation to be $80,821.37. One of the chief factors causing a difference of opinion was that of wrought iron pipe. The company's engineer claimed that much higher valuation should be placed on this than if it were ordinary steel pipe, claiming it resists the corroding influences of the earth to a greater extent. The court finds, however, that the original cost of this pipe was much less than the cost of steel pipe at present. The opinion states that for the purpose of taxation the president of the company fixed the valuation of the property at $12,047.13, and that for rate making purposes the engineer of the company claimed it was $80,821.37. The court held no convincing evidence has been introduced to prove the commission's valuation was not fair and reasonable.

MILAN R. BUMP DIES SUDDENLY AT DENVER

Milan R. Bump, chief engineer of Henry L. Doherty & Co., died suddenly on Sunday from heart failure while on a business trip in Denver. His headquarters were in New York City. Mr. Bump was a vice president of the Empire companies and had made many visits to the Mid-Continent fields. While always very active in the public utilities branch of Henry L. Doherty & Co., and the Cities Service Co., he had for several years been the executive head of the oil and natural gas operations of these companies.

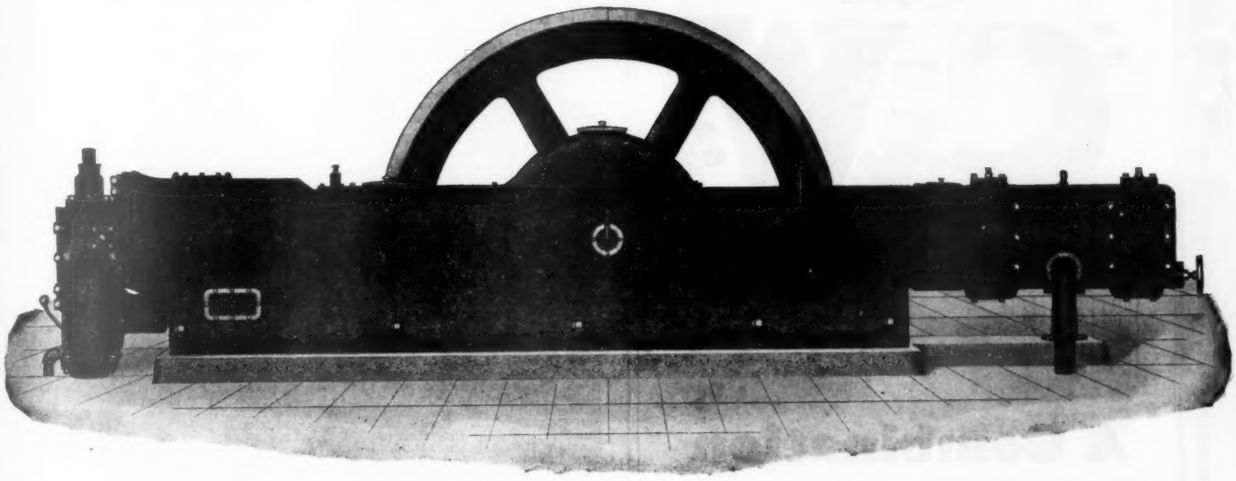
Mr. Bump was born in Rock Falls, Wis., March 18, 1881. He was a graduate of the University of Wisconsin. His business career began as a cadet engineer in the Denver Gas & Electric Co. in 1904. He went with Henry L. Doherty & Co. as engineer in New York City, in 1906, and has been with that organization since. He was active in engineering and electrical associations, especially the Natural Gas Association of America and the National Electric Light Association, serving one year as president of the latter.

BUYS BRADFORD LEASES

BRADFORD, Pa., May 9.—Roy E. Diament has purchased two oil leases from George W. Wilcox. One comprises 150 acres in fee at Kanesholm, on which 10 wells already are located, and the other is a 53-acre tract at Hedlum. Mr. Diament has awarded a contract for drilling 10 new wells to P. A. Oakes & Son, of Mt. Jewett.

WATTS-MILLER

The Miller Improved Gas Engine Company
Springfield, Ohio



QUALITY

A Word That Means Something When Applied to

WATTS-MILLER EQUIPMENT

The service rendered by any equipment will always demand recognition.

Some of the largest Gas and Gasoline Producers in America have been users of Watts-Miller equipment for many years.

Service is the only point of discussion. Proof is the greatest dictator.

Theory and argument will not suffice when work is applied and power produced.

The fundamental points underlying any principle when applied correctly will always succeed.

The application of these principles can be applied with success by the designer who knows from experience.

The Watts-Miller Opposed Type Gas Compressor has refinements that bring its quality to the highest point possible.

The installations made are proving this to be a fact, 24-hour service every day in the year, carrying heavy overload for long periods.

"Quality First"

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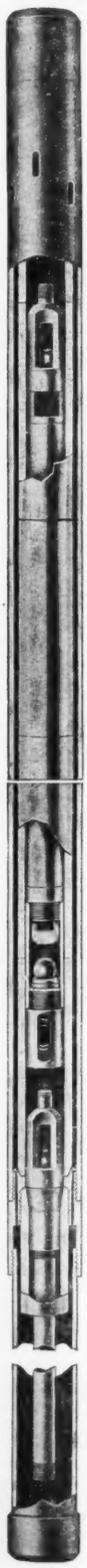

OUR C & W PUMP

A Combination D & B Pump and Gas Anchor

Our C. & W. Pump is particularly adaptable to wells where there is gas to handle, as the fluid entering the top of the barrel does not permit the gas to enter. Instead, the gas passes up around the tubing, and the oil down into the reservoir that is provided by placing two or three joints of tubing below the pump and closed at the bottom.

A gas pipe anchor from the standing valve extends downward about two-thirds the depth of the reservoir. This process is especially efficient in preventing emulsion when there is some water to be handled in connection with the gas and oil. The fact that the fluid level never is lower than the top of the pump helps to gravitate the oil into the valves, allowing the seats and balls to act freely, and extending their life many times.

Three sizes: 2-inch, 2½-inch, 3-inch; one length—9 feet (pump only)

C. & W. Pumps are particularly adapted to wells where there is gas to handle.

D & B Pump and Supply Company

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1477

REFINERS ESTABLISH THROUGHPUT RECORD

(Continued from Page 24)

erate indefinitely as long as the market conditions continue favorable. The plant is running between 1,200 and 1,500 bbls. daily, which would swell the increase in daily runs to stills of the Mid-Continent.

The 398,940 bbls. of crude run is in contrast to the 324,415 bbls. run to stills on May 1, 1924, a gain of 74,525 bbls. As every district of the Mid-Continent showed a gain over April 1, so every district revealed an increase over the same date of a year ago. However, on May 1, 1924, only 115 plants were operating as contrasted with 128 on May 1, this year.

REFINING OPERATIONS IN OKLAHOMA

(Plants which have been in operation during the past year.)

Name and location—	Daily Capacity	Runs May 1	Runs April 1
Allied Refining Co., Okmulgee	1,800	750	
Anderson-Prichard, Cyril	1,200	900	750
Barnsdall Refining Co., Barnsdall	5,000	4,500	900
Bell Oil & Gas Co., Grandfield	3,000	1,900	4,500
Bolene Refining Co., Enid	5,000	4,500	2,000
Cameron Refining Co., Ardmore	3,600	3,850	4,500
Canfield Refining Co., Yale	500	125	3,600
Chestnut & Smith Corp., Sand Springs	5,000	Shut down	125
Champlin Refining Co., Enid	16,000	10,200	Shut down
Coleman-Nelson Corp., West Tulsa	2,000	Shut down	10,200
Cushing Refining & Gasoline Co., Cushing	2,500	1,300	Shut down
Cushing Refining & Gasoline Co., Blackwell	1,500	1,000	1,000
Daisy Bell Petroleum Co., Wilson	2,000	Shut down	1,000
Empire Refineries, Inc., Cushing	7,000	5,000	Shut down
Empire Refineries, Inc., Okmulgee	3,000	3,000	5,000
Empire Refineries, Inc., Ponca City	6,500	6,000	3,000
Fairmount Refining Co., Fairmount	2,500	550	6,000
Garber Refining Co. (Omar)	3,000	2,200	500
Gilmer Oil Co., Ringling	1,000	Shut down	1,500
Globe Oil & Refining Co., Blackwell	5,000	4,500	Shut down
Hewitt Refining Co., Hewitt	1,800	750	4,000
Illinois Oil Co., Cushing	3,000	1,400	750
Imperial Refining Co., Ardmore	6,000	5,000	1,400
Johnson Oil Refining Co., Cleveland	4,000	3,500	4,350
Lawton Refining Co., Lawton	1,000	100	3,500
Lorraine Refining Co., Bristow	4,000	1,500	75
Marland Refining Co., Ponca City	15,000	13,700	1,300
Mid-Continent Petroleum Co. (Cosden), West Tulsa	35,000	26,000	13,200
Mutual Oil Co., Sapulpa	7,000	1,100	26,000
Newkirk Oil & Refining Co., Newkirk	2,000	Shut down	1,000
Nyanza Refining Co., Wilson	3,500	1,100	Shut down
Oil State Refining Co., Enid	2,000	700	1,150
Okla-Tex Refining Co. (Sagamore), Grandfield	2,000	1,500	600
Phillips Co. (Waite), Okmulgee	6,000	5,500	1,500
Peppers Gasoline Co., Covington	1,000	500	5,000
Pierce Oil Corp., Sand Springs	10,000	6,000	550
Producers & Refiners Corp., West Tulsa	7,000	5,500	6,000
Producers & Refiners Corp., Blackwell	8,000	1,500	5,500
Pure Oil Co., Ardmore	6,500	2,000	1,800
Pure Oil Co., Cushing	5,000	3,500	1,800
Pure Oil Co., Muskogee (O. P. & R. Co.)	2,500	2,000	3,200
Riley Petroleum Co., Bristow	800	500	1,500
Rock Island Refining & Pipe Line Co., Duncan	2,500	1,500	200
Roland Oil Co., Bristow	1,500	700	1,500
Shaffer Oil & Refining Co., Cushing	8,000	7,300	600
Sun Co., Yale	3,000	2,000	6,500
Sinclair Refining Co., Cushing	6,000	3,800	2,000
Sinclair Refining Co., Muskogee	1,000	700	3,500
The Texas Co., West Tulsa	10,000	10,000	600
Texas Pacific Coal & Oil Co., Wynnewood	2,500	1,000	10,000
Tidal Refining Co., Drumright	5,500	5,500	1,100
Transcontinental Oil Co., Boynton	2,500	2,000	5,500
Transcontinental Oil Co., Bristow	6,000	5,000	2,000
Tonkawa Petroleum Co., Tonkawa	2,500	800	5,000
Turley Refining Co. (formerly Home Petroleum Co.) Oklahoma City	2,500	Shut down	800
Whaleback Production Co., Oklahoma City	1,500	400	Shut down
Western Oil Corp., Beckett	1,500	1,200	400
Yale Oil Corp., Yale	1,500	900	1,200
Yale Asphalt Co., Yale	1,000	Shut down	900
Total	268,600	176,425	Shut down
			170,550

REFINING OPERATIONS IN NORTH CENTRAL TEXAS

(Plants which have been in operation during the past year.)

Name and location—	Daily Capacity	Runs May 1	Runs April 1
Amarillo Refining Co., Amarillo	3,000	2,200	2,000
American Refining Co., Wichita Falls	7,000	5,200	5,200
Big Four Refining Co., Panhandle	1,500	800	Shut down
Boardman Oil Co., Wichita Falls	750	Shut down	Shut down
Bridgeport Refining Co., Bridgeport	1,000	Shut down	70
Buffalo Refining Co., Sherman	500	300	300
Clayton Oil & Refining Co., Dallas	4,500	4,200	4,200
Crystal Petroleum Co., Burkburnett	1,000	Shut down	150
De Leon Refining & Pipe Line Co., De Leon	1,500	550	300
Falls Refining Co., Wichita Falls	1,500	750	400
Four States Refining Co., Texarkana	750	400	400
Griswold Oil Co., Electra	3,000	2,200	1,900
Gulf Refining Co., Fort Worth	15,000	6,100	6,300
Hagaman Refining Co., Griffin	2,000	275	275
Humble Oil & Refining Co., Burkburnett	2,300	2,300	2,100
Humble Oil & Refining Co., Hearne	10,000	9,000	9,000
Iowa Park Producing & Refining Co., Iowa Park	2,500	1,900	2,000
Kent-Middleton Refining Co., Corsicana	2,500	950	950
Miller Petroleum Co., Wichita Falls	3,000	2,500	2,600
Magnolia Petroleum Co., Fort Worth	12,000	6,600	6,700
Magnolia Petroleum Co., Corsicana	10,000	1,400	1,900
Megargel Refining Co., Megargel	2,000	1,100	1,000
Mexia Oil & Refining Co., Mexia	600	100	100
National Refining Co. of Texas, Greenville	2,000	250	50
Noble Oil & Gas Co., Burkburnett	5,000	2,800	3,000
Olney Oil & Refining Co., Olney	1,000	950	1,000
Oriental Refining Co., Dallas	6,000	300	300
*Oriental Refining Co. (Trinity), Dallas	5,000	3,200	2,900
Orient Petroleum Co., Wichita Falls	2,000	Shut down	1,100
Paris Refining Co., Paris	250	250	250
Panhandle Refining Co., Wichita Falls	4,000	3,100	3,500
The Petroleum Corp., Electra	2,000	7,000	Shut down
Primrose Refining Co., Wichita Falls	1,500	900	900
Producers Refining Co., Gainsville	5,000	4,200	4,300
Star Refining & Producing Co., Fort Worth	1,500	Shut down	Shut down
State Refining Co., Dallas	1,000	Shut down	Shut down
Sunshine Consolidated Oil Co., Wichita Falls	2,500	1,300	1,400
Tidal Western Refining Co., Burkburnett	3,000	1,700	1,700
The Texas Co., Dallas	15,000	8,500	8,500
Texhoma Oil & Refining Co., Wichita Falls	7,000	4,900	4,200
Tiger Refining Co., Breckenridge	1,500	100	100
Transcontinental Oil Co., Fort Worth	5,000	2,000	Shut down
Travis Refining Co., Burkburnett	1,000	Shut down	Shut down
Waggoner Refining Co., Electra	3,400	2,400	2,300
White Eagle Oil & Refining Co., Fort Worth	5,000	2,800	2,500
Wichita Refining Co., Wichita Falls	2,500	1,700	1,500
Total	170,050	91,175	87,445

*Operated by Magnolia Petroleum Co.

REFINING OPERATIONS IN KANSAS

(Plants which have been in operation during the past year.)

Name and location—	Daily Capacity	Runs May 1	Runs April 1
Arkansas City Refining Co., Arkansas City	6,000	1,200	3,500
Commonwealth Oil & Refining Co., Moran	1,800	150	150
Derby Oil & Refining Co., Wichita	5,000	3,800	3,800
El Dorado Refining Co., El Dorado	3,500	2,500	2,000
Golden Rule Refining Co., Wichita	1,000	1,000	1,000
Kanotex Refining Co., Arkansas City	6,000	5,400	5,400
Kansas Oil Refining Co., Coffeyville	2,000	500	900
Kansas City Refining Co., Kansas City	5,000	4,500	4,500
Miller Petroleum Co., Humboldt	2,000	150	Rerun
National Refining Co., Coffeyville	6,000	5,850	5,850
Peerless Oil Refining Co., Chanute	3,000	2,000	2,300

"Well Boss, Why Don't You Get a Jones Reamer?"

BOSS: "We've got to junk this lease. We're not getting any production."

BILL: "Well Boss, why don't you get a Jones Reamer? I've seen reaming triple production on wells just like these."

BOSS: "Say Boy, you said a mouthful when you talked Jones Reamers."

BILL: "Mouthful-nothin'! I said TANKS FULL —look at 'em runnin' over. We increased the production 40 barrels on one well."

Just A Typical Case of Reaming

Comparative Results of Reaming Over Simple Clean-Out

Three Bartlesville-sand wells, producing three barrels each, were cleaned out, after which they made four and one-half barrels. These same wells were then reamed with Jones Reamers and their production was increased in each well to an average of nine barrels per day.

NET INCREASE FROM REAMING FOUR AND ONE-HALF BARRELS
4½ Barrels@ $1.85 per Barrrel Means $8.32 per Day

Net Profit $249.60 Per Month

Results like this is the reason Jones Oil Well Reamers are now being used in practically all principal oil producing districts. Our new folder—*"When Sscience Takes a Whirl at an Oil Well"* is just off the press. Write for copy.

Jones Oil Well Reamer Co.

Tulsa, Oklahoma

Red Bird Refining Co., Fredonia	200	100	75
Richardson Refining Co., El Dorado	1,500	Shut down	Shut down
Roxana Petroleum Corp., Arkansas City	15,000	9,800	9,800
Sinclair Refining Co., Coffeyville	6,500	6,100	5,000
Sinclair Refining Co., Argentine	8,000	5,200	5,500
Skelly Oil Co., El Dorado	14,000	12,190	7,900
Standard Oil Co. of Kansas, Neodesha	12,000	9,200	11,000
United Oil & Refining Co., Hutchinson	2,500	300	250
Vickers Petroleum Co., Potwin	3,500	2,900	2,400
Waite Phillips Co., Wichita	5,000	3,500	2,500
White Eagle Oil & Refining Co., Augusta	6,500	5,450	5,250
Southern Missouri Group—			
Interstate Refineries, Inc., Centropolis	1,500	Rerun	Rerun
Wilhoit Refining Co., Joplin	1,500	600	1,300
Total	119,000	82,390	80,375

REFINING OPERATIONS IN NORTH LOUISIANA

Name and location—	Daily Capacity	Runs May 1	Runs April 1
Caddo Central Oil & Refining Co., Shreveport	3,500	3,500	3,500
Caddo Central Oil & Refining Co., Shreveport	4,500	3,500	3,500
Great Southern Refining Co., Ardis	2,000	600	600
Louisiana Oil Refining Corp.—			
Shreveport and Bossier	13,000	12,600	10,000
Red River Refining Co., Crichton	1,800	Shut down	Shut down
Shreveport Producing & Refining Co., Shreveport	5,500	3,800	4,000
*The Texas Co., Ardis	7,000	6,500	6,000
Total	37,300	30,500	27,600

*Topping.

REFINING OPERATIONS IN ARKANSAS

Name and location—	Daily Capacity	Runs May 1	Runs April 1
Cross Refining Co., Smackover	2,000	1,300	1,150
Farmers Oil & Refining Co., Texarkana	750	Shut down	Shut down
Grison Refining Co., Eldorado	750	Shut down	Shut down
Home Refining Co., Camden	500	100	100
Home Oil & Refining Co., Hot Springs	500	100	80
Houston Oil Co., Camden	5,000	700	700
Kettle Creek Refining Co., Pearson	4,000	3,000	2,600
Lion Oil & Refining Co., Eldorado	10,000	9,750	9,200
McMillan, Fehlman & Oliver, Eldorado	1,500	Shut down	400
Ouachita Valley Refining Co., Eldorado	1,500	700	700
Pine Bluff Refining Co., Pine Bluff	2,000	800	750
Root Refineries Eldorado	2,500	2,000	1,500
Shippers Petroleum Co., Eldorado	700	Shut down	Shut down
Union Pipe Line & Refining Co., Eldorado	4,000	Rerun	Rerun
Total	35,700	18,450	17,180

SPECIAL DECOLORIZING METHOD REDUCES MANUFACTURING COSTS

By A. R. Moorman

Engineer Max B. Miller & Co., New York, Paper before the Oklahoma Section, American Chemical Society.

In recent years the business of producing and refining petroleum has undergone some very marked changes. These changes, particularly in the refining end, have been brought about quite largely by increased competition among the refiners and the resultant education of the buying public. In the continual scramble to keep at least one jump ahead of the sheriff, the refiner has had to speed up his production, improve his products and cut operating costs at every possible point. This has been especially true in the manufacture of lubricating oils where the refining losses are high and detailed knowledge of production cost rather vague.

Probably the chief source of trouble and expense in producing a high grade of lubricating oil is decolorization. Until recently there have been two general methods of accomplishing this step, namely, acid treatment of the oil followed by chemical neutralization and filtration by percolation through coarse Fuller's earth, or a combination of the methods. Acid treatment is rapid, but often accompanied by heavy losses in sludge and the ever present problem of sludge disposal. The practice of neutralizing the reaction products of the acid treatment with some form of alkali and then removing the alkali frequently leads to further heavy losses due to emulsification. It is frequently the case that oils finished in this manner are not clean, emulsify easily and are unstable as to color. Percolation filtration gives oils of good quality but is slow, thus involving a heavy investment in plant and a correspondingly high operating cost.

There is now coming into general use a method of decolorizing known as contact filtration which has the speed of said treatment and gives a product equal to or better than that obtained by percolation and at less cost. Also the cost of plant is about half that of a percolation plant of equal capapcity. A contact plant is extremely flexible and may be used to replace both acid treatment and percolation or in conjunction with either.

Almost every one who has a filtering problem to contend with is familiar with the general principles of contact filtration which is not new, it having been the standard practice in vegetable and fat oil refining for many years. The process consists of mixing finely ground clay and oil together, heating the mixture to any desired temperature and separating the clay from the oil by means of a filter press. Oils produced by this method are of an uniform color throughout the run and do not require grading as in percolation where the filtrate becomes darker the longer the filter runs.

Type of Clays

The contact clays now on the market are divided into two general classes, natural or raw clays and treated clays. The natural clays are essentially the same as ordinary Fuller's earth except that they are highly pulverized and some of them are considerably more efficient than finely ground Fuller's earth. The treated clays are those which have been given a high absorptive power by treatment with acid. Before treatment these clays have little or no value as adsorbants, but the proper treatment will develop a filtering value which is in some cases many times that of Fuller's earth.

The question is often asked—"How can you tell whether a clay has filtering value?" and about the only answer is "try and see." The appearance and chemical analysis have very little bearing on the filtering value of a clay. Also the same clay will show different results on different oils and different clays will act differently on the same oil.

Advantages

One of the advantages of contact filtration is that the clay may be applied directly to a sour oil following acid treatment, thus entirely eliminating chemical neutralization. The deacidification of adsorption is more complete than in the case of chemical neutralization and the oil is naturally of better quality. The adsorptive action of clay in contact with sour oil is selective and to a large extent irreversible. The acidity is taken up first, then the heavier color bodies and so on down the line until the clay becomes saturated or equilbrium is established. The deacidification seems to be independent of the temperature and to a lesser extent of the amount of moisture in the clay. A neutral oil can be obtained at room temperature or at temperatures as high as 500 degrees Fahrenheit. The lower the temperature the longer the time required. This is also true in a measure for the decolorizing action. The adsorption of acid from an oil is specific for any one clay and the amount of clay required can be calculated as in the case of chemical neutralization. While a large number of clays will readily adsorb derived acidity, that is, the acidity resulting from acid treatment, few of them have any appreciable effect on the natural acidity of the oil.

Decolorization Power

The decolorization power of most clays is, within ordinary limits, independent of the acidity of the oil and is greater in contacting a sour oil than a neutral oil. In the case of some few natural clays and in that of practically all treated clays of relatively hige efficiency the decolorizing power increases with the rise in temperature of treatment. This increase has been observed on some oils up to 650 degrees Fahrenheit when using a California treated clay. The optimum temperature for contacting is quite variable and must be determined for each clay and each oil. When contacting at high temperatures it is essential for the best results that the operation be carried on in a closed system and above 300 degrees Fahrenheit. Steam should be present up to the point where the clay is removed from the oil. While the adsorption of color and acid is largely irreversible the clay should be removed from the oil as soon as possible after the action is complete. If the clay is kept mixed with the oil and the temperature allowed to drop, some of the coloring matter will be slowly leached out of the clay. For this reason a continuous system, which also has other advantages, is likely to give better results than a batch system.

Where the latter system is used the cycles should be short. The length of time required to obtain the maximum result depends both on the clay and the temperature at which it is being used. Ordinarily the lower the efficiency of the clay the lower the temperature that should be used, and the longer the time required for complete saturation.

It might be well to say a word here about the different classes of contact clays. As stated before, there are two, natural and treated. The natural clays are mostly lower in both efficiency and price than the treated clays and are best adapted to use on gasoline and for neutralizing lubricating oils that can be easily treated to color. They have a high relative value for neutralizing but are rather poor decolorizers.

The treated clays are offered for use in two forms. In one case the raw clay is pulverized, cooked or digested in a weak solid solution, washed with water, artificially dried and again ground. These clays are delivered to the consumer in sacks and contain up to about 10 per cent moisture. One disadvantage of finishing clay in this manner is that it frequently deteriorates in storage. For instance a clay which has a relative efficiency of five when fresh may after 30 or 40 days show a value of only three. This loss in decolorizing power is rather severe when you consider the expense of treating and drying.

California Clay

To preserve the efficiency and at the same time reduce the cost of manufacture, there has been developd in California a method of manufacturing and using a treated clay without having to dry it before applying it to the oil. This material and process, which have a number of decided advantages, are being marketed in the United States by Max B. Miller & Co., Inc., of New York and Tulsa. Clays handled by this company are sold under the trade name of Palex clays.

The method of treating the clay is similar to that just described, except that the drying and re-grinding are omitted. After the washing is completed, the clay is settled to a pulp or mud and is applied to the oil in this form. The clay pulp is mixed with the oil in a proportion to give the desired color as determined in the laboratory. This mixture is pumped through a pipe still type heater where the water is evaporated and the whole raised to the desired temperature in a single pass. From the heater the mixture passes through a separator shell where the steam is separated from the oil and clay. From this point the oil and clay are pumped through a pressure type filter where the clay is separated from the oil which passes out through a cooler to storage. The clay when used in this manner has about twice the efficiency it would have if it were dried and ground and used in the form of a dry powder. It is particularly adapted for use on heavy stocks and often shows a decolorizing power of 12 or 15 times that of finely ground Florida Fuller's earth. Another advantage of using this clay in the form of a pulp is that it can be stored indefinitely without any loss in efficiency.

The efficiency of a clay as spoken of several times means of course its relative decolorizing power. As this relative value of two or more clays will vary with different oils, it must be determined for each individual case. This can best be determined in the laboratory by contacting the same oil to the same color, using any number of different clays. Assign a unit value to any one of the clays and the efficiency ratio of the others is readily determined. For instance if it takes 20 grams of finely ground Fuller's earth per 100 cc of oil to give a desired color, and 4 grams of any other clay to obtain the same color, then the efficiency of the latter is 5.

Testing Clays

The following method of testing clays in the laboratory is simple and should give satisfactory results, which will check very closely with plant operation. A convenient amount of oil is 200 cc in an 800 cc beaker. When clay pulp is used, a 1,000 cc or 1,500 cc beaker is better. Add the clay to the cold oil and heat as rapidly as possible while keeping the clay and oil thoroughly mixed. A fairly high speed mechanical agitator will give much better results than hand stirring. A piece of light wire fastened to the agitator shaft about 2½ inches below the top of the beaker will help keep the foam down and speed up the operation. Hold the oil at the maximum temperature until the foam caused by the moisture in the clay has practically disappeared. This will usually be for from 5 to 10 minutes. Filter out the clay as quickly as possible.

When a temperature above 300 degrees Fahrenheit is to be used, heat the oil and clay in the beaker as above to about 260 degree Fahrenheit and hold it there until most of the foam is off. Transfer the oil and clay to a 1½ litre round bottom short neck flask. This flask should have a steam line and a thermometer extending to the bottom and a vapor vent. Shake the flask gently to keep the clay from settling and heat to the desired temperature as rapidly as possible. Turn in a little steam at about 280 degrees Fahrenheit and steam down from the maximum temperature to 300 degrees Fahrenheit. Continue cooling without steam to 250 degrees Fahrenheit and filter. This method differs considerably from plant operation but gives comparable results.

The type of apparatus necessary to a commercial contact plant is subject to rather wide variation, but a closed system, that is, one in which the hot oil is never in contact with the air seems the most desirable. With the higher efficiency clays and clay pulp in particular the operation can be made continuous so that a comparatively small quantity of hot oil is in the system at any time

Mixing Tanks

Mixing tanks should be equipped with high speed propeller type agitators which will keep the clay and oil thoroughly mixed at all times. This feature is very important as the results depend largely on obtaining the most intimate contact between the clay and oil.

The type of heater to be used depends somewhat on the grade of oil that is to be treated. For the lighter and more tender oils on which a dry clay is used a steam heated exchanger will work very nicely, while for heavier oils and where clay pulp is used, a properly designed continuous pipe coil direct fired heater will give the most satisfactory and economiccal results.

The best kind of filter for use in the

(Continued on Page 104)

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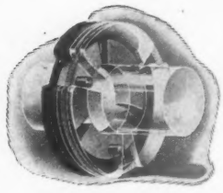

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1—The knowledge gained from 25 years of experience is built into them.
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The Garlock Packing Co. maintains a corps of Metal Packing Experts who will be glad to cooperate with the Engineering Department of builders and users of Gas and Air Compressors relative to the recommendation and proper application of Metal Packing for this type of service.

Garlock-860 Metal Packing is designed to pack successfully, Gas and Air Compressors.

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OPEN DOOR FOR OIL OPERATORS

(Continued from Page 56)

this plan to the oil industry, it is necessary to outline in some detail the situation in Iraq from the standpoint of practical oil development and to state how it is proposed to put that policy into operation.

In the first place, Iraq is a far distant and isolated land lying off the main world trade routes. A passenger traveling by sea to Bagdad from New York, after the week to reach Great Britain, would require four to five weeks more to reach Bagdad via France, India and the Persian Gulf, and would have covered over 11,000 miles. The nearest seaport to Bagdad is Busrah, at the head of the Persian Gulf, 500 miles to the southward and the latter port, in turn, is 1,900 miles away from India.

So far as plant and equipment are concerned, the last 500 miles of the journey to Bagdad is by the river Tigris, which has a maximum draft of 3 feet 6 inches in dead low water season. It is a river noted for its shifting sand banks and channels and in general for the difficulties it has always provided for the masters of the vessels who ply between Busrah and Bagdad.

The Kingdom of Iraq is as yet in its infancy with many external problems and internal troubles awaiting settlement. Great Britain is engaged in an endeavor to impart to that country and its peoples sufficient help and guidance to enable them at the earliest moment to stand by themselves and to bring about Mesopotamia's entry into the League of Nations. Fundamental to a country's existence is the creation and maintenance of revenue and it is hoped that the development of Iraq's oil resources may make a substantial contribution to that end but the answer to that question lies with that final arbiter of all petroleum questions—the drill.

Needs Ample Resources

Conditions within the country are still primitive. Compared with other lands petroleum consumption is so small as to be negligible. Questions of transportation, labor, local customs, laws and language constitute definite factors to be reckoned with, no less than the psychological aspects attendant on all Eastern trading.

With such a background, it will be clear that in order to make the concession of practical value to any prospective individual producer, some organization with resources and means adequate to carry out exploration and development and to build the necessary pipe line or pipe lines to bring the oil to a shipment point or market, is essential. Therein lies in large part the function of the Turkish Petroleum, Ltd.

The provinces of Mosul and Bagdad possess an area of approximately 90,000 square miles. Out of this the Turkish Petroleum Co., Ltd., will be permitted to select the 24 blocks of eight square miles each, already referred to. This is something less than one-quarter of 1 per cent of the area of the consession.

A period of three years is allotted by the Iraq Government for a comprehensive geological survey of the country and the selection of the first 24 plots. This survey will commence within six months of March 14 of this year. Following this, all geological data so obtained is to be made available to any bonafide applicants for leases. Twelve months after the selection of the 24 blocks by the Turkish Petroleum Co., Ltd., any individual or company may indicate a plot for inclusion at the annual auctions, the total plots so indicated and offered to be 24 per annum. All plots offered will be advertised in the leading oil papers of the United States, Great Britain, Holland and France. When a plot has been purchased, a standard form of lease will be issued to the purchaser, who will deal direct with the Turkish Petroleum Co., Ltd. Such lease will cover all the general conditions under which the Turkish Petroleum Co., Ltd., holds the concession and each individual operator so far as the terms of the lease are concerned, will be on an exact parity with any other individual or operating company; by this means sublesses avoid difficult and tedious negotiations with local authorities. Moreover, each sub-lessee's obligations, rights and privileges will be set out and well understood, thus making it possible for the small producer to operate under a set of conditions clearly defined beforehand.

The royalty payable by sub-lessees will be, as in the case of the Turkish Petroleum Co., Ltd., a sum equivalent to 4 shillings per ton (96 cents at present exchange) subject to modification based on average market price and fluctuation in costs after 20 years. There will also be a royalty of the present equivalent of 4 cents per thousand feet on natural gas sold.

Individual Prospectors

Individual prospectors may indicate blocks and bid for them four years from March 14, 1925. They will be required to drill 1,500 feet in the three years subsequent to the execution of the lease and thereafter not less than 500 feet per annum until the block has been fully tested.

Another point is the question of transportation of sub-lessee's crude. Under the provisions of the concession the Turkish Petroleum Co., Ltd., is obligated to reserve 30 per cent of pipe line capacity for carriage of sub-lessee's crude to market or export port and will occupy the same position as the large purchasing companies in the Mid-Continent Field who are currently in the market through their posted price, to purchase production from day to day, from any sellers. In order to facilitate development and operation, the concession provides that areas which remain unsold after offer at public auction may then be operated by the Turkish Petroleum Co., Ltd.

If, and when, as a result of the very considerable outlay they will be obliged to make, the Turkish Petroleum Co., Ltd., succeed in showing that the concession area, or part of it, is oil productive, and when pipe lines have been installed, then Iraq, or Mesopotamia, as it is sometimes called, can be developed in exactly the same manner as Burbank in the Osage.

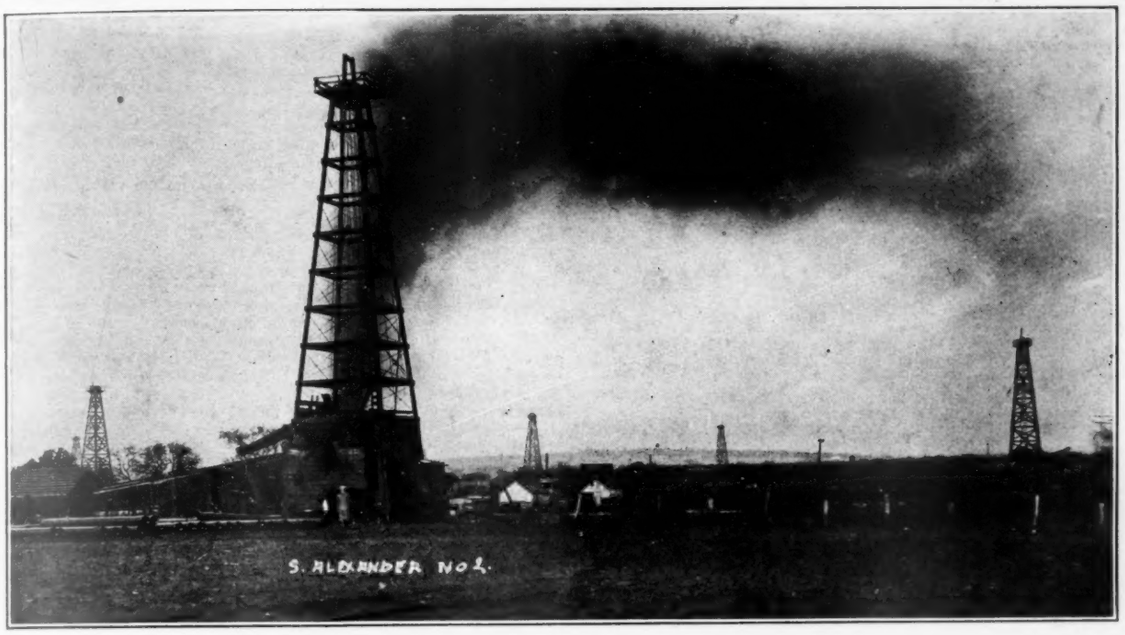
The great fact of the sub-leasing plan will be that a company or individual producer has the same opportunities to produce oil in Iraq as he would possess in the United States, because once Iraq has been demonstrated to be a potential oil-producing area such as Oklahoma, Texas or California, etc., then the plan makes possible the transposing of the American set of oil-producing conditions to this far distant Oriental country.

The definite stand taken by the United States Department of State in support of its Open Door policy, no less than the watchful attitude of the American oil industry to the national and world aspects of future petroleum supply commensurate with the nation's necessities, have, with the effective cooperation of the interested British and French groups, thus been successful in throwing open to all, on broad lines, for the next 75 years, this very extensive potential oil area. Competition for this concession was not lacking, but the widespread character of the undertaking and the desirability in Iraq's interest that the best technical skill and adequate financial resources should be available for its oil development, appears to have weighed with that Government in its decision.

It is into such remote, silent and historically rich places as these that the economic necessities of mankind in 1925 are driving the oil drill.

USE MORE CARS AND BUSSES

"The electric car will continue to carry the mass of traffic, but to succeed operating companies must use cars, busses and such other conveniences as riders demand in supplemental service," J. N. Shannahan, president of the American Electric Railway Association, declared on the occasion of the thirty-seventh birthday of successful electric railway operation.



300 Feet Over the Crown Block

When the Independent Oil & Gas Company's Alexander No. 2, on 2-9-9 Okemah, drilled in, the tools went out of the hole, up through the derrick, 300 feet into the air.

This well came in for fifty-one million feet of gas with one hundred and fifteen barrels of oil per hour. Under this pressure the tools crashed skyward without ceremony.

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RECEIPTS OF CALIFORNIA OIL AND APRIL IMPORTS OF PETROLEUM

Receipts of California crude and refined oils at Atlantic and Gulf Coast ports for the month of April totaled 2,701,000 bbls., a daily average of 90,033 bbls., compared with 3,260,000 bbls., a daily average of 105,161 bbls. for the month of March.

Receipts at Atlantic and Gulf Coast ports for the week ended May 2 totaled 382,000 bbls., a daily average of 54,571 bbls., against 760,000 bbls., a daily average of 108,572 bbls. for the week ended April 25.

CALIFORNIA OIL RECEIPTS AT ATLANTIC AND GULF COAST PORTS

(Barrels of 42 gallons)

	Total Month of April	Total Month of March	Week Ended May 2	Week Ended April 25
At Atlantic Coast Ports				
Baltimore	95,000	110,000	.....	.....
Boston	294,000	148,000	.....	.....
New York	1,163,000	1,317,000	222,000	451,000
Philadelphia	513,000	693,000	160,000	.....
Others	570,000(a)	759,000	.....	233,000
Total	2,625,000(a)	3,027,000	382,000	760,000
Daily Average	87,500(a)	97,645	54,571	108,572
At Gulf Coast Ports				
New Orleans and Baton Rouge	78,000	233,000	.....	.....
Daily Average	2,533	7,516	.....	.....
Total Atlantic and Gulf Coast Ports	2,701,000(a)	3,260,000	382,000	760,000
Daily Average	90,033(a)	105,161	54,571	108,572

(a) Revised.

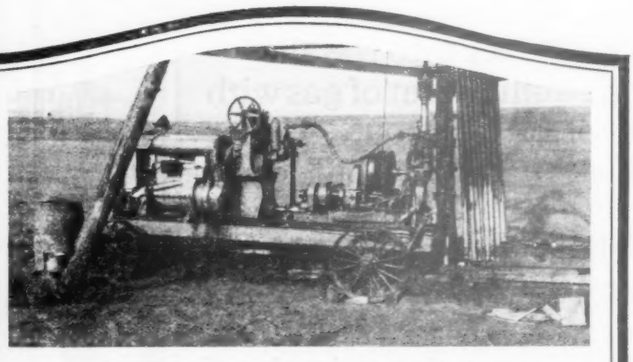
According to figures collected by the American Petroleum Institute, imports of crude and refined oils at the principal ports for the month of April totaled 6,109,000 bbls., a daily average, of 203,633 bbls., compared with 7,455,000 bbls., a daily average of 240,484 bbls., for the month of March.

Imports at the principal United States ports for the week ended May 2 totaled 1,321,000 barrels, a daily average of 188,715 bbls., compared with 1,272,000 bbls., a daily average of 181,714 bbls. for the week ended April 25.

IMPORTS OF PETROLEUM AT UNITED STATES PORTS

(Barrels of 42 gallons)

	Total Month of April	Total Month of March	Week Ended May 2	Week Ended April 25
At Atlantic Coast Ports				
Baltimore	561,000	486,000	172,000	170,000
Boston	258,000	497,000	128,000	.....
New York	1,793,000	2,364,000	215,000	308,000
Philadelphia	295,000	285,000	.....	50,000
Others	621,000	955,000	243,000	113,000
Total	3,528,000	4,587,000	758,00	641,000
Daily Average	117,600	147,967	108,284	91,571
At Gulf Coast Ports				
Galveston District	622,000	774,000	143,000	189,000
New Orleans & Baton Rouge	1,377,000	1,729,000	315,000	242,000
Port Arthur & Sabine District	364,000	123,000	.....	200,000
Tampa	218,000	242,000	105,000	.....
Total	2,581,000	2,868,000	563,000	631,000
Daily Average	86,033	92,517	80,429	90,143
At All United States Ports				
Total	6,109,000	7,455,000	1,321,000	1,272,000
Daily Average	203,633	240,484	188,715	181,714



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Rapelje, Montana

A New Diamond Drill Hook-up for Oil

PORTABILITY was our goal in building the gas driven diamond drill unit illustrated above. It is all connected ready for drilling and consists of our well-known Longyear No. 2 N drill, Fordson gas engine and pump of ample capacity.

This drill unit has met with instant favor and we shall gladly furnish particulars upon request

E. J. Longyear Company
Minneapolis, Minnesota, U.S.A.

MAY FILL NAVY TANKS PENDING LEASE RULING

WASHINGTON, D. C. May 9.—Naval oil tanks at Pearl Harbor, Hawaii, which are now subject to corsion, can be filled with oil by Edward L. Doheny without objection from the Federal Government, special Government counsel in the oil cases declared in a formal statement.

Fifty steel tanks were erected by Doheny under the contract from Secretaries Denby and Fall by which Mr. Doheny received Navy crude and the Government got the tanks and the refined oil to fill them. Of the 50 tanks 33 are filled, their aggregate capacity being 1,500,000 bbls. This is a reserve supply in case of war. The remaining 17 are the largest, their aggregate capacity being 2,600,000 bbls. They are complete, but rusting for want of oil. Notwithstanding the Government suit to cancel the contract Mr. Doheny ordered completion of all the tanks planned and carried out that part of his contract. He said he was unable to fill the 17 tanks with oil because by that time the Federal receiver had taken possession of the Navy oil involved in the contract.

The statement by the Government counsel says: "Mr. Doheny has seen fit to guarantee the Pan American Petroleum & Transport Co. against loss if it would complete the construction of the tankage. No objection has been made or will be made to Mr. Doheny's filling these tanks with oil sufficient to prevent rusting and deterioration if he sees fit to do so. The Government cannot make any agreement of the kind asked by the defendants without prejudice to the litigation pending, both civil and criminal."

This proposal was that the United States pay the Pan American Petroleum & Transport Co. for the oil used to fill the tanks.

"This, of course, we could not do," the statement added, "without seriously prejudicing the Government's case both civil and criminal."

"The position of the Government in the equity suit (for the recovery of the Naval oil reserves leased to Doheny and H. F. Sinclair) is that the contracts and lease were first, without authority of law; and secondly the result of fraud and conspiracy, without binding authority. There are pending not only the civil suit, but criminal proceedings.

"While counsel might perhaps enter into a stipulation whereby the Government might use these tanks without prejudice in the civil case, it is hard to conceive how Mr. Hogan, representing the Pan American Petroleum & Transport Co., or counsel representing the Government could make any stipulation which would be binding upon the defendants in the criminal case, and particularly upon Mr. Fall. What position would the Government be in in the criminal cases against Mr. Fall, if it appeared that at the same time we were prosecuting him for bribery and conspiracy to defraud, the Government was making use of the tanks which were constructed under the contracts and agreements thus procured and alleged to be void."

HOW THE GAS INDUSTRY WON PUBLIC CONFIDENCE

(Continued from Page 84)

involved. As a result when applications were made for higher rates, the public was in a position to realize the necessity of providing additional revenue to the gas companies if proper service were to be mainained and there was little opposition, usually, to these price increases.

What has been accomplished in the natural gas business can be accomplished in the oil business as well. Persons not informed as to conditions are easily led astray by agitators or demagogs but when they have the facts in the case, they are able to form their own conclusions. This was demonstrated forcibly in the oil business when The Oil and Gas Journal published "The Oil Industry's Answer." Attorneys General of different States in which there were agitations for investigations of the oil business because of increases in the price of gasoline, wrote this publication thanking it for copies of "The Oil Industry's Answer" and stating the information contained was most valuable and would aid them in handling such problems as arose affecting the oil business.

There are about seven times as many consumers of gasoline as there are of natural gas. And yet with Government figures showing conclusively gasoline is the cheapest of all commodities, investigations galore have been started to probe "the high cost of gasoline." There is only one answer to this—the public has not been as well informed about the oil business as natural gas consumers have been about the gas business.

DECOLORIZING METHOD HELPS REDUCE COSTS

(Continued from Page 100)

contact plant is the pressure type having the leaves suspended in a case or shell. This style of filter provides a large cake capacity with a small amount of floor space and can be operated and cleaned with a minimum expenditure of time and labor. As the filtering is done at relatively high temperatures, it is best to have the leaves covered with Monel metal cloth. In selecting a filter for this work it is the cake capacity rather than the rate of flow per square foot hour which determines the size to be installed. This type of filter has an added advantage in that while the outlets are manifolded into a single pipe the flow from each leaf is visible and should a break occur that leaf can be shut off without tearing down the whole filter to look for the leak.

The number of refiners who have adopted contact filtration is increasing steadily and it is only a question of time until this method is in almost universal use. The oils so produced are equal to and in many respects better in quality than those finished by other methods and in addition have a superior appearance and tone that it is impossible to obtain except by contact filtration.

UNITED CARBON MERGER FORMALLY ANNOUNCED

The United Carbon Co.'s plan to acquire the carbon black and gasoline producing plants and business of 15 companies engaged in the manufacture of carbon black and gasoline in Louisiana, West Virginia and Kentucky, have been formally announced by Peabody, Houghteling & Co., Inc., who will shortly offer an issue of United Carbon Co. first mortgage 7 per cent, 6-year sinking fund gold bonds.

The United Carbon Co. plans to operate 33 plants having a daily capacity of over 183,000 pounds, and in connection therewith, nine plants for the extraction of gasoline from natural gas. These plants last year produced 44,032,173 pounds of carbon black and 5,405,529 gallons of gasoline. The total acreage to be controlled by the company is approximately 113,787 acres. The company will have nearly 200 producing wells in Louisiana, Kentucky and West Virginia, with a present open flow capacity of about 800,000,000 feet of natural gas per day.

JUAN FELIPE LITIGATION

According to an official statement at the office of Pan American Petroleum & Transport Co. regarding property in Juan Felipe, the only litigation now pending in the Mexican courts is the filing of amparos (or injunctions) by minority land owners in Juan Felipe to prevent drilling. The company has filed counter amparos. The action of the minority land owners is as much against the Government as against the company because the Government has granted the company the right to drill. Of a total of 2,500 pesos primativos the Pan American Co., through a subsidiary, owns 1,700, thus giving it more than majority ownership. The title is not involved. No judgment has been given by the Mexican court, according to the company.

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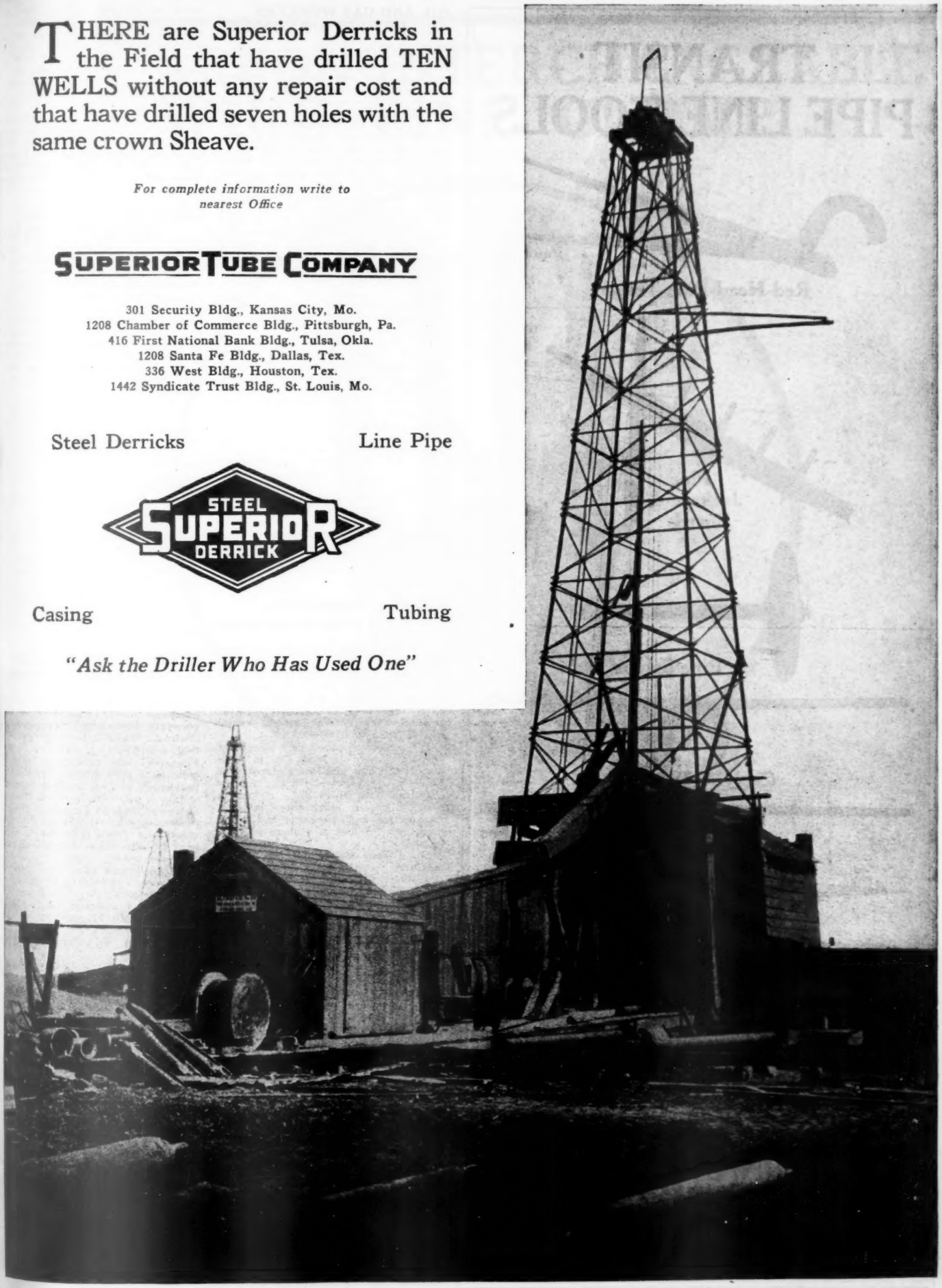


TRANSIT PIPE LINE TOOLS

Red-Head Pipe Tongs

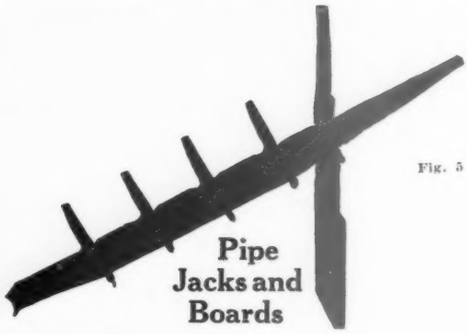


Fig. 5

Pipe Jacks and Boards

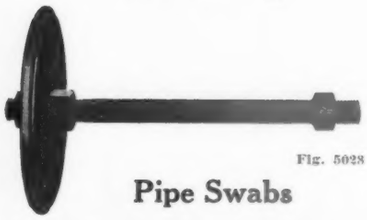


Fig. 5028

Pipe Swabs

Fig. 5030

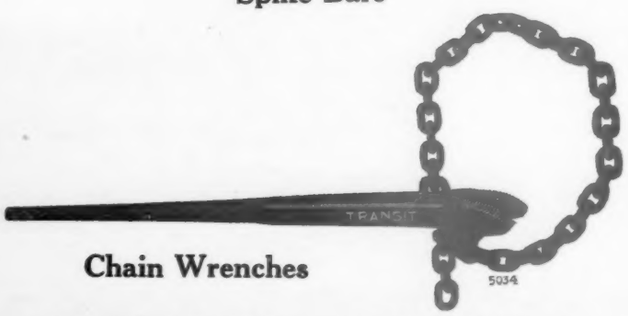
Carrying Tongs

Fig. 5031

Carrying Bars

Fig. 5032

Spike Bars



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OIL AND GAS WORKERS IN FIRST AID CONTEST

WASHINGTON, D. C., May 9.—The great petroleum producing and refining companies have been invited by the Secretary of the Interior to participate in the Fourth International First Aid and Mine Rescue Contest which will be held at Springfield, Ill., September 10, 11 and 12, 1925, under the auspices of the Bureau of Mines. The matter of safer working conditions in the oil and gas industries has recently been given considerable attention by the Bureau of Mines, whose mine rescue cars have visited the larger producing regions in order that the crews of the cars might give first-aid instruction to the employes of these great enterprises. Much enthusiasm for first aid and safety instruction has been aroused among employes of oil and gas companies, and first aid teams organized in the oil fields have attained great proficiency. The Mid-Continent Oil & Gas Association has manifested much interest in this safety work.

The American National Red Cross, the National Safety Council, and various mine operators' associations and miners' organizations cooperate with the Bureau of Mines in the holding of the International First Aid and Mine-Rescue Contests, which are open to all miners, quarrymen, metallurgical workers, and oil and gas employes. International first aid championships are awarded at these meets, and international contest cups, medals and prizes are distributed. A congressional medal is given annually to the first aid team adjudged to be most thoroughly skilled. Medals offered by the Joseph A. Holmes Safety Association in commemoration of notable deeds of heroism performed by employes of the mineral industries in rescuing or attempting to rescue their comrades in time of peril are also awarded.

DOHENY COMPLETING CALIFORNIA MERGER

LOS ANGELES, Cal., May 9.—Since Mr. Doheny's return daily consultations have been held for formulating plans for the launching of the Pan-American Western Petroleum Co., and June or July will witness the organization of the holding company, with assests valued at more than $100,000,000.

The new organization may absorb the Pan-American Petroleum Co. in California, the Los Angeles Midway Pipe Line Co., the Temescal Oil Co., and the Petroleum Securities Co., making a combination of producing, refiining, transporting and wholesale and retail marketing. A fleet of tankers will also be added.

Mr. Doheny states that the deal he concluded recently in the East gives this new Western company $85,000,000 worth of backing, and that this is all new Eastern capital for developing the Western business.

SEEK ADDITIONAL TAX UPON WYOMING CRUDE

CASPER, Wyo., May 9.—The recent attempt by the County Commissioners of Natrona County, Wyoming, to collect taxes on storage oil is regarded as another scheme to saddle an additional burden on the oil industry. The oil men producing oil in the Rocky Mountain region, pay a tax on 100 per cent valuation and this industry and the coal industry are the only one that do so.

The Midwest Refining Co. in 1923 produced about 24,000,000 bbls. of crude oil in Salt Creek, which was sent to the Casper refineries. Of this amount, about 19,000,000 bbls. of crude was refined, which would show a storage of about 5,000,000 bbls. in the tanks. However this stored oil was not the same oil that had been left over from time to time and stocked, it was oil that was constantly changing; as new production came in, the older crude was pumped out to the refinery stills.

All of this crude paid a gross production tax in 1924 based on the 1923 production and the average market price, which in 1923 was $1.15 per barrel. The County Commissioners now consider that the Midwest Refining Co. still owes another additional tax on this same oil because the commissioners aver it is storage oil and production. Oil men say it is merely changing the name of a commodity to enable the commissioners to place an additional tax upon it.

Under such a ruling, oil production could be taxed as storage oil besides the gross production tax it pays as it is produced. All oil production in Wyoming pays its 100 per cent tax as it is produced and is termed production and not storage oil.

LIGHT OIL SHORTAGE, FRANK PHILLIPS SAYS

NEW YORK, May 9.—Regarding the crude situation Frank Phillips, president of the Phillips Petroleum Co., says there is a shortage of light oil with production still declining and that there will be no cut in price of that grade; that the Smackover deep sand at Arkansas has reached its peak, that production there has been overestimated and with premiums developing indications are the next change in Smackover prices will be upward.

"After a comprehensive and careful analysis of the deep sand at Smackover Pool, Arkansas," he says, "I have come to the conclusion that production there is at its peak. There will be about 30 wells completed every week in the deep sand for several weeks and probably half as many will stop flowing each week.

"There is nothing new in production in the Mid-Continent area and indications point to steadily declining production of high grade oil, of which there is now a shortage.

"A careful survey of the market indicates that the next price movement of Smackover crude oil will be upward, within the next 30 days, and there will be no decline in the price of high grade oil. Premiums are being offered at Smackover in the last few days."

DENIAL FROM PRAIRIE OF EASTERN RUMORS

The Prairie Oil & Gas Co., principal purchaser of Mid-Continent crude oil, is currently shipping to its customers practically all the oil it is receiving from the field, according to a statement by W. S. Fitzpatrick, chairman of the board. This indicates a good demand for Mid-Continent crude, and indicates that company's storage is not being increased. The statement was made in a reply to a question concerning a report that the Prairie was negotiating with a large eastern oil company for disposition of a definite portion of its shipments.

"We have not even been approached by anyone with such a proposition and we do not contemplate any change in our methods and business relations at this time," said Mr. Fitzpatrick.

NATIONAL TRANSIT ELECTION

At the annual stockholders' meeting of the National Transit Co., F. D. Williams was elected president, and the following were elected directors: L. C. Longaker, T. L. Blair, C. E. Martin, C. T. McClintock, J. H. Contino and C. C. Baker. C. E. Martin was chosen vice president and general auditor, L. C. Longaker, treasurer, and J. H. Contino, assistant treasurer, F. G. Zimmermann, secretary, and B. L. Wood, assistant secretary.

STANDARD IN RUMANIA

E. J. Sadler, director of Standard Oil Co. of New Jersey, is reported to be negotiating with Rumania to obtain a share in the remaining available oil lands for its subsidiary Romana-Americana. Sadler is believed to favor submission to some of the clauses of the Rumanian mining law if the new concession is made sufficiently attractive. Interests in London, however, say Standard Oil will not relax its opposition to confiscatory provisions.

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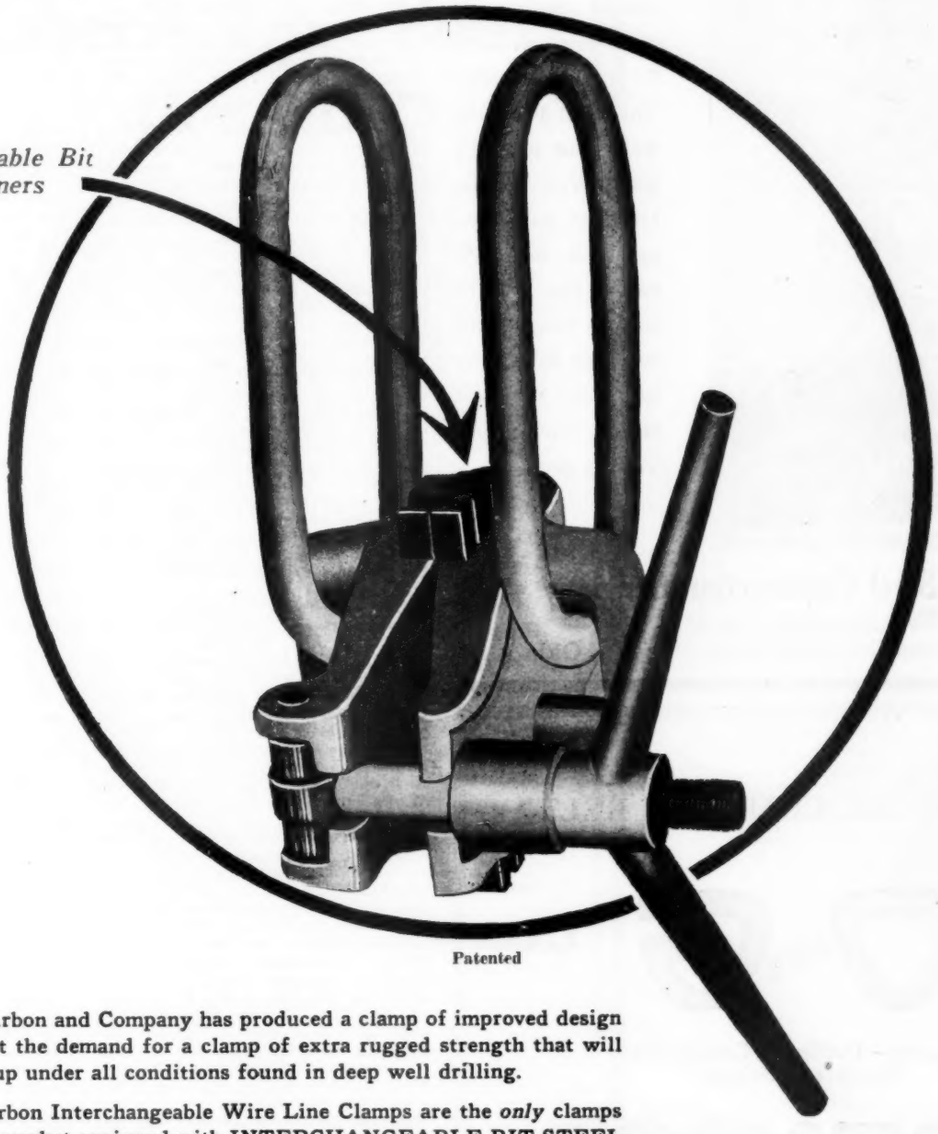

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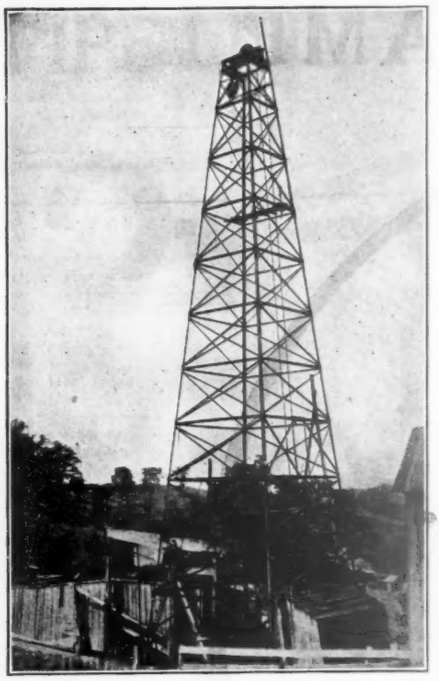

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CENTRAL WEST

(Continued from Page 52)

bbls. from a total depth of 1,413 feet. Top of Trenton was found at 1,327 feet and drilled in 86 feet.

In Marion Township, Allen County, the Ohio Oil Co.'s No. 10 well located 1,975 feet from the north line and 660 feet from the east line of the H. H. Counsellor farm, in the northwest quarter of Section 13, pumped 5 bbls.

In Lake Township, Wood County, Lantz, Gregg and Schulte's No. 6 well, 700 feet from the south line and 800 feet from the east line of the Fred Schulte farm, in the northeast quarter of Section 35, pumped 7 bbls. from a total depth of 1,304 feet.

Central Ohio

A few completions were reported from the Central Ohio Field during the past few days and pretty evenly numbered between oil and gas. The bringing in of what is estimated as a 125-bbl. Clinton sand producer by the Empire Gas & Fuel Co., on the S. S. Troyer farm, Section 33, Hardy Township, Holmes County, brings that supposed gas area to the front among oil operators, for it is by far the largest find yet made in that county.

Another interesting find, although not a commercial well to speak of, is the wildcat drilled by the Wehrle Co., 240 feet from the south line and 860 feet from the west line of the Maggie Oatman farm of 119 acres, Section 24 Eden Township, Licking County, which is reported showing around 5 bbls. at a depth of 2,159 feet. This may mean the opening of a new oil area for that county, which has been full of thrills for the past 25 years. The Carter Oil Co. has started a test on the S. J. Kelsey farm, Section 9, Rush Creek Township, Fairfield County.

In Orange Township, Ashland County, the Logan Gas Co. drilled a light gas well on the J. R. McConnell, Section 4.

Medina County, for several years one of the most active in the field, is very quiet. In Westfield Township, Medina County, Ford, Barnhart and others' test on the Mack P. Sterns 13 acres, Section 4, is an exceptionally good gas well. In Chatham Township, same county, the E. R. Sdson & Son Co.'s No. 13 George W. Packard No. 2 farm, Lot 3, is due for completion.

Lorain County, which for so long was overlooked, is now attracting more attention than during the past dozen years. The East Ohio Gas Co. got the big gas well of the recent completions in a second well on the G. and J. Harold farm, Lot 28, Columbia Township. Daugherty Brothers are drilling a second test 300 feet from the south line and 600 feet from the east line of the F C. Akins 61 acres, Lot 47, same township, and made a location for No. 1, 300 feet from the south line and 500 feet from the west line of the R. and E. Churchwood 33 acres, Lot 35. Dillon & McFredrick made a location for a test 300 feet from the north line and 600 feet from the west line of the John Offenberg 50 acres, Lot 32. The Wiser Oil Co. is starting a test 300 feet from the south line and 550 feet from the east line of the J. A. and A. Ashman 40 acres, Lot 28. Empire Gas & Fuel Co. made a location for a test on the northeast corner of the Oliver Leitner 60 acres, Lot 32. The East Ohio Gas Co. staked out a location for a test on the southeast corner of the M. J. Malloy 50 acres, Lot 19, and for No. 1 on the southwest corner of the W. W. Goodman 28 acres, Lot 34, all in the same township.

In Monroe Township, Holmes County, the Empire Gas & Fuel Co. drilled in a fair gas well at a second test on the Elmer E. Connor farm, Lot 14. In Prairie Township, the East Ohio Gas Co. is drilling No. 1 on the Dave Anderson 37 acres, Section 17, as well as drilling at No. 2, same farm. Same company is drilling No. 1 on the H. L. Lifer 84 acres, Section 32, Washington Township, same county.

In Hardy Township, Holmes County, the Empire Gas & Fuel Co. is drilling a test 1,060 feet from the south line and 300 feet from the east line of the Mary E. Bridges 100 acres, Section 5. The East Ohio Gas Co. made a location for a test on the northwest corner of the Edwin Snyder 12 acres, Section 30. In Kilbuck Township, same company is drilling No. 2 on the northwest corner of the Loretta House 40 acres, Section 8. The Empire Gas & Fuel Co. made a location for a third well, 550 feet from the south line and 400 feet from the east line of the James L. Pyers 140 acres, Section 8.

In Richland Township, Holmes County, the East Ohio Gas Co.'s test 1,000 feet from the south line and 300 feet from the west line of the W. H. Manchester 84 acres, Lot 3, came in a real duster.

In Carthage Township, Athens County, Sweeney & Snodgrass drilled a good gas well in No 4 on the L. H. Allen 202 acres, Section 30, and started drilling No. 5 located 1,410 feet from the south line and 550 feet from the west line of the same farm. The Carter Oil Co. made a location for No. 1 well, 900 feet from the north line and 300 feet from the east line of the E. G. Campbell 93 acres, in fractional Section 10, Athens Township, Athens County.

In York Township, Athens County, Stevens and others' No. 4 on the Stephen Arnot farm, Section 35, is reported at 10 bbls. In Alexander Township, same county, J. H. Harmon of Mansfield and R. A. Watts of Columbus are drilling a test well on the A. D. Grass farm, in close to the Fisher Pool.

In Newcastle Township, Coshocton County, Bell Brothers and others are drilling No. 6 well 1,050 feet north of No. 5 on the Cassingham and Herbig 164 acres, Section 9.

Offside Development

The Heisey Gas Co.'s No. 5 well 285 feet from the north line and 645 feet from the east line of the C. Matthews 100 acres, better known as the Marion Wolfe farm, Section 13, Clay Township, Knox County, is estimated at 2 bbls from the shallow pay sand.

The East Ohio Gas Co. is due in the sand at No. 3 on the S. J. Bross farm, Section 14, Jefferson Township, Knox County, as well as No. 1 on the Allen Scholes farm, Section 19, Brown Township, same county. This company made a location for a test 400 feet north of the highway and 300 feet from the east and west lines of the Willis E. Tisserand 40 acres, Section 3, Jefferson Township, same county, as well as location for a test in the northeast corner of the Mary A. Nichols 20 acres, Section 19, Pike Township, same county. Same company is drilling No. 1 J. Moser, known as the Richart farm, Section 33, Brown Township, same county.

Eppenour-McClelland and Lewis are shut down at 900 feet at their test on the Simon Browand, Section 19, Spencer Township, Medina County.

J. B. Reed and others got only a light gas well at a second sand on the L. and L. Reed farm, Section 15, Brown Township, Knox County. The well with a shot only showed 65,000 feet.

McTaggart and others' test on the P. H. Smith farm, fractional Lot 604, Barlow Township, Washington County, showed close around 200,000 feet of gas from the Maxon sand at 1,230 feet.

Russell, Beal and Vandergrift will abandon their second well on the J. B. Crawford farm, Section 5, Lodi Township, Athens County, on account of water interference.

The Carter Oil Co. is doing considerable drilling throughout the field. This company is drilling No. 1 J. C. Leffler farm, Section 17, Brush Creek Township, Muskingum County; No. 3 Robert Finley, Section 17, Harrison Township, same county; No. 1 Albert Sturgeon farm, Section 23, Hopewell Township, Perry County; No. 2 Frank Phillips farm, Section 10, Perry Township, Licking County; No. 4 James Vandenbark farm, Hanover Township, same county; No. 1 Andrew Rauber farm, Section 14, Washington Township, Hocking County; No. 1 C. O. Lowery farm, Section 31, Athens Township, Athens County; No. 4 Jacob Elder farm, Section 10, Jack-

(Continued on Page 120)

Check Up Your Valve Costs

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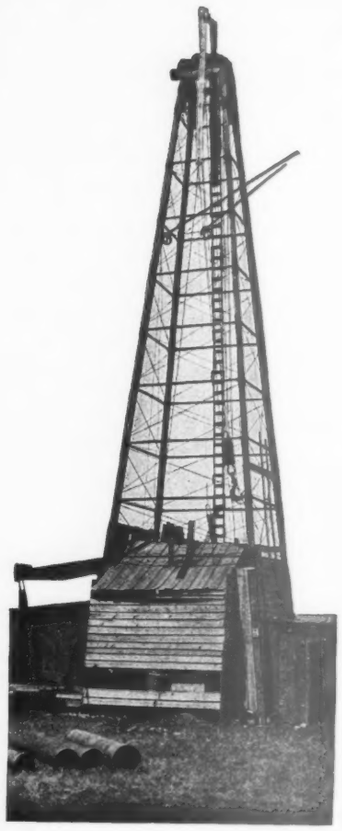

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COMPARISON OF PUMP TYPES USED IN TRANSPORTATION OF OIL PRODUCTS

By B. Samelson
Mechanical Engineer, The Goulds Manufacturing Co., Seneca Falls, N. Y.

Transportation of oils is an important branch of the oil industry. Oils may be transported in barrels, tank cars, tank steamers or by pumping through pipes, economy determining which method is best.

Specific gravity and viscosity determine the behavior of oils when being pumped. The effect of specific gravity of a liquid on pumping is shown in the horsepower. The weight of a column of fluid represents the pressure against which the fluid must be delivered. If a water pump requires 10 h.p., the same pump handling gasoline of 0.70 gravity will take 7 h.p., pumping against the same elevation.

The effect of viscosity is more complicated. The viscosity of an oil is a measure of the resistance to flow and is given here in Saybolt Seconds Universal, the accepted standard in the United States. Viscosity affects the different types of pumps in different degrees. Reciprocating and rotary pumps are least influenced. Centrifugal pumps are most affected. The liquid passes through the impeller and volute at high velocity and the viscosity of the liquid has a marked effect on the frictional losses, thus reducing the flow and effective head.

Types of Pumps

Reciprocating pumps are the simplest type of pump for conveying oils. The pressure of the plunger is transmitted to the liquid which enters the cylinder through a suction valve and leaves through a discharge valve.

The losses of the pump consist of the mechanical loss (gears, bearings, stuffing boxes) and the loss in passing the fluid through the pump which is small because of extremely low velocities. It is evident that with properly proportioned suction valves and moderate plunger speeds the cylinder will fill and the plunger not pull away from the fluid on the suction stroke. Hence, this type of pump will maintain its efficiency regardless of the consistency of the fluid.

The gears, cams or rotors of various shapes in rotary pumps rotate in a casing containing inlet and outlet ports. The seal between the suction and discharge openings along the periphery of the rotor is formed by close clearance contact, by the action of centrifugal force on wing-shaped members, or by spring action. The seal in axial direction, however, always relies on the close clearance of the rotor in the casing.

The efficiency of a rotary pump depends on the pressure and the viscosity of the fluid. At low pressure the efficiency is low because of the large amount of friction compared with the useful work done by the pump. With increased pressure the efficiency increases to a point where the by-pass losses become excessive. Then the efficiency begins to decrease. The loss due to the velocity of the fluid is a function of the viscosity.

The centrifugal pump uses centrifugal force in its action. The centrifugal effect of a rotating impeller on the fluid passing through it is dependent on the fluidity of the matter which passes through the channels of the impeller. The greatest losses in centrifugal pumps handling viscous liquids are from the resistance to the flow in the impeller passages and from the disc friction of the impeller in the viscous material. These losses can be determined only by experiment. Such experiments show a decreased output for viscous fluids in a proportion to increased viscosity.

Flow of Oils in Pipes

Frictional resistance in pipes conveying oils has for a long time been a puzzle to practical engineers. The theoretical side of this question has been analyzed by physicists of the 19th century. In 1914-16 the National Physical Laboratory of Great Britain conducted elaborate tests to determine the friction loss of oils in pipe lines. General formulae have been devised as results of these tests, expressing the loss due to friction in lines in functions of viscosity and specific gravity. These formulae are now accepted standards in the oil industry.

The flow of oil in pipes may be along stream lines or as turbulent flow. The critical velocity is the velocity at which stream-line flow changes into turbulent flow. The conditions of a simple phenomenon such as the flow of liquid in a pipe are very complicated, due to the many factors which influence them. Nevertheless practical experience has demonstrated the most efficient type of pump for viscous oils.

The reciprocating pump is a great favorite in the petroleum industry. Due to its positive displacement it is adapted to handle any petroleum product from the most volatile gasoline to the heaviest fuel oil. Due to its high efficiency it is standard for pipe line pumping where large volumes are pumped against high pressures. The details of construction vary according to the service. Valves, pistons, plungers, etc., must be properly selected for the particular oils and the pressures at which they are to be pumped.

In a booklet "Petroleum Industry and Pumps Used," the Goulds Manufacturing Co., Seneca Falls, N. Y., has endeavored to give recommendations on reciprocating pumps for the various pumping duties encountered in the oil industry.

Rotary pumps are used where viscous oils are pumped. Steam jacketed pumps are practically the only type to pump successfully tar, pitch, asphalt and similar materials. Due to close clearances, gritty materials or materials lacking lubricating qualities cannot be handled as they soon damage the pump.

Centrifugal Pumps

The efficiency of centrifugal pumps depends on the viscosity of the oil. Just as in pumping oil through pipes, the losses in a centrifugal pump increase with viscosity.

In order to determine the range of application of centrifugal pumps to oil pumping, The Goulds Manufacturing Co. in collaboration with the Union Oil Co. of California, recently undertook a series of tests in the Los Angeles refinery of the latter company. These tests were conducted by Prof. Robert L. Daugherty, of the California Institute of Technology, a well-known authority on hydraulics and author of several books on the subject. Two centrifugal pumps, one a 4-inch, single stage pump with a 40 h.p. motor, the other a 5-inch, 3-stage pump with a 60 h.p. motor, were tested with commodities ranging from gasoline to oils of 7,000 Saybolt viscosity. The results have been published in a bulletin, "Investigation of the Performance of Centrifugal Pumps When Pumping Oils," by Prof. R. L. Daugherty, published by the Goulds Manufacturing Co.

Comparison of Types

1. Capacity: A matter for careful selection.
2. Pressure: Dependent upon the conditions.
3. Drive:
   - Reciprocating — Steam: Direct acting steam pumps, crank and flywheel pumps, geared or belted to steam engine. Gas and oil engines: Geared or belted to engines. Electric drive: Geared to slow speed electric motors.
   - Rotary—Direct connected to steam engines; belted or geared to any kind of prime mover. Requires slow speed electric motors.
   - Centrifugal—High speed machine. Best adapted for direct connection to high speed electric motors and steam turbines. May be belt or gear driven.
4. Efficiency:
   - Reciprocating—Independent of viscosity. Most efficient of the three types.
   - Rotary—Depends upon viscosity and slip.
   - Centrifugal—Depends upon viscosity.
5. Weight, First Cost, Repairs:
   - Reciprocating — Heaviest and most expensive of the three types described. Repairs are easily made and pump restored to original efficiency by replacing valves, seats and pistons or plungers.
   - Rotary—Is between reciprocating and centrifugal pumps as to weight. First cost low. Repairs hard to make due to close clearance work. Small pumps are usually scrapped when worn out.

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To prevent the sheaves from grinding against the "I" beam, the Lucey Crown Block employs a small thrust washer that fits over the end of the shaft and eliminates any possibility of sparks caused by friction of the sheave against the "I" beam. This feature is entirely new and will not be found on any other crown block.

The Lucey Crown Block is simple, effective and economical. Built in three styles—7-pulley for combination rotary and standard drilling, 5-pulley for rotary work, and 2-pulley for pumping.

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Fig. 33—"Pilot" Sight Feed Oil Cup

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Fig. 77—"Hydro" Gas Engine Lubricator

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Fig. 95—Automatic Grease Cup

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Fig. 277—4-Feed "Multiplex" Lubricator

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Detroit, Mich.

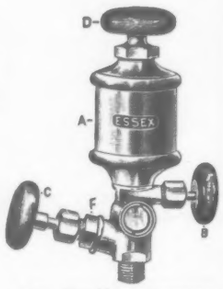


Fig. 42—Air Compressor Lubricator

A "TOLEDO"

For Threading Oil Well Tubing

This "TOLEDO" ratchet tool is made especially for the oil fields. Cuts the special 11½-pitch threads on 2-inch, 2½-inch and 3-inch oil well tubing. It operates easily and produces perfectly tapered standard threads.

It is light and compact, weighing but 39 lbs. and may be operated in most confined quarters. It is a strong, durable, efficient tool that gives satisfaction. Your jobber can supply you.

Buy by Comparison and You'll Buy a

"TOLEDO"

THE TOLEDO PIPE THREADING MACHINE CO., TOLEDO, OHIO

New York Office: 50 Church St.

Large pumps must be repaired by experts.

Centrifugal—Lightest and least expensive of the three. Repairs easily made. Original pump efficiency may be restored at low cost.

For the sake of comparison it is assumed that oils of the following descriptions will be pumped:

No.	Oil	Spec. Grav.	Vis. Second Saybolt Universal
1.	Gasoline	.768	....
2.	Light crude	.859	66
3.	Warm residuum	.910	250
4.	Heavy crude	.940	1250
5.	Cold residuum	.938	3100
6.	Heavy oil	.948	6000

It is further assumed that the capacity is 500 U. S. GPM against a pressure of 100 pounds per square inch.

1. GASOLINE:

	Type	Method of Drive	Motor	Complete Weight of Pump and Motor	Comparative Prices of Pump and Motor with Manual Control Complete 440 v. 3 ph., 60 cy.
Reciprocating Pump	Vertical Triplex Plunger Single Acting	Geared	40 h.p. 900 r.p.m. Slip Ring Type	12,200 lbs.	100%
Rotary Pump	Cam Type With Outside Pilot Gears	Geared	50 h.p. 720 r.p.m. Slip Ring Type	7,585 lbs.	App. 75%
Centrifugal Pump	Multi-Stage Enclosed Impeller	Direct Connected	50 h.p. 1800 r.p.m. Squirrel Cage Type	3,625 lbs.	App. 46%

2. LIGHT CRUDE, 66 SAYBOLT

Reciprocating Pump	Vertical Triplex Plunger	Geared	40 h.p. 900 r.p.m. Slip Ring Type	12,200 lbs.	100%
Rotary Pump	Cam Type With Outside Gears	Geared	50 h.p. 720 r.p.m. Slip Ring Type	7,585 lbs.	App. 75%
Centrifugal Pump	Multi-Stage Enclosed Impeller	Direct Connected	50 h.p. 1800 r.p.m. Squirrel Cage Type	3,625 lbs.	App. 46%

3. WARM RESIDUUM, 215 SAYBOLT

Reciprocating Pump	Vertical Triplex Plunger	Geared	40 h.p. 900 r.p.m. Slip Ring Type	12,200 lbs.	100%
Rotary Pump	Cam Type With Outside Pilot Gears	Geared	50 h.p. 720 r.p.m. Slip Ring Type	7,585 lbs.	App. 75%
Centrifugal Pump	Multi-Stage Enclosed Impeller	Direct Connected	50 h.p. 1800 r.p.m. Squirrel Cage Type	3,625 lbs.	App. 46%

4. HEAVY CRUDE, 1,250 SAYBOLT

Reciprocating Pump	Vertical Triplex Plunger	Geared	40 h.p. 900 r.p.m. Slip Ring Type	12,400 lbs.	100%
Rotary Pump		Geared	60 h.p. 900 r.p.m. Slip Ring Type	12,800 lbs.	App. 150%
Centrifugal Pump	Multi-Stage Enclosed Impeller	Direct Connected	75 h.p. 1800 r.p.m. Squirrel Cage Type	4,350 lbs.	App. 48%

5. COLD RESIDUUM, 3,100 SAYBOLT

Reciprocating Pump	Vertical Triplex Piston Inside Packed	Geared	40 h.p. 900 r.p.m. Slip Ring Type	19,400 lbs.	100%
Rotary Pump		Geared	60 h.p. 900 r.p.m. Slip Ring Type	12,800 lbs.	App. 101%
Centrifugal Pump	Multi-Stage Enclosed Impeller	Direct Connected	100 h.p. 1800 r.p.m. Squirrel Cage Type	5,640 lbs.	App. 40%

6. HEAVY OIL, 6,000 SAYBOLT

Reciprocating Pump	Vertical Triplex Piston Inside Packed	Geared	40 h.p. 900 r.p.m. Slip Ring Type	19,400 lbs.	100%
Rotary Pump		Geared	60 h.p. 900 r.p.m. Slip Ring Type	12,800 lbs.	App. 101%
Centrifugal Pump	Centrifugal pump not suited.				

Conclusions

The tabulation shows that the reciprocating pump has the highest efficiency. The rotary pump is less efficient than the reciprocating pump. The centrifugal pump has good efficiencies at low viscosities and decreased efficiencies at high viscosities.

The selection of a type must be made by considering:

1. Cost of power.
2. First cost of outfit and installation.
3. Maintenance charges.

The tabulation was made for a transfer station handling the various oils encountered in a large refinery, and shows clearly that the centrifugal pump is best adapted to the service. Various conditions require different pumps. For instance, absorption gasoline plants use mostly centrifugal pumps for circulation. A compounding plant may be best served with small rotary pumps, whereas the big pipe line stations use large reciprocating pumps exclusively, the efficiency being an important item.

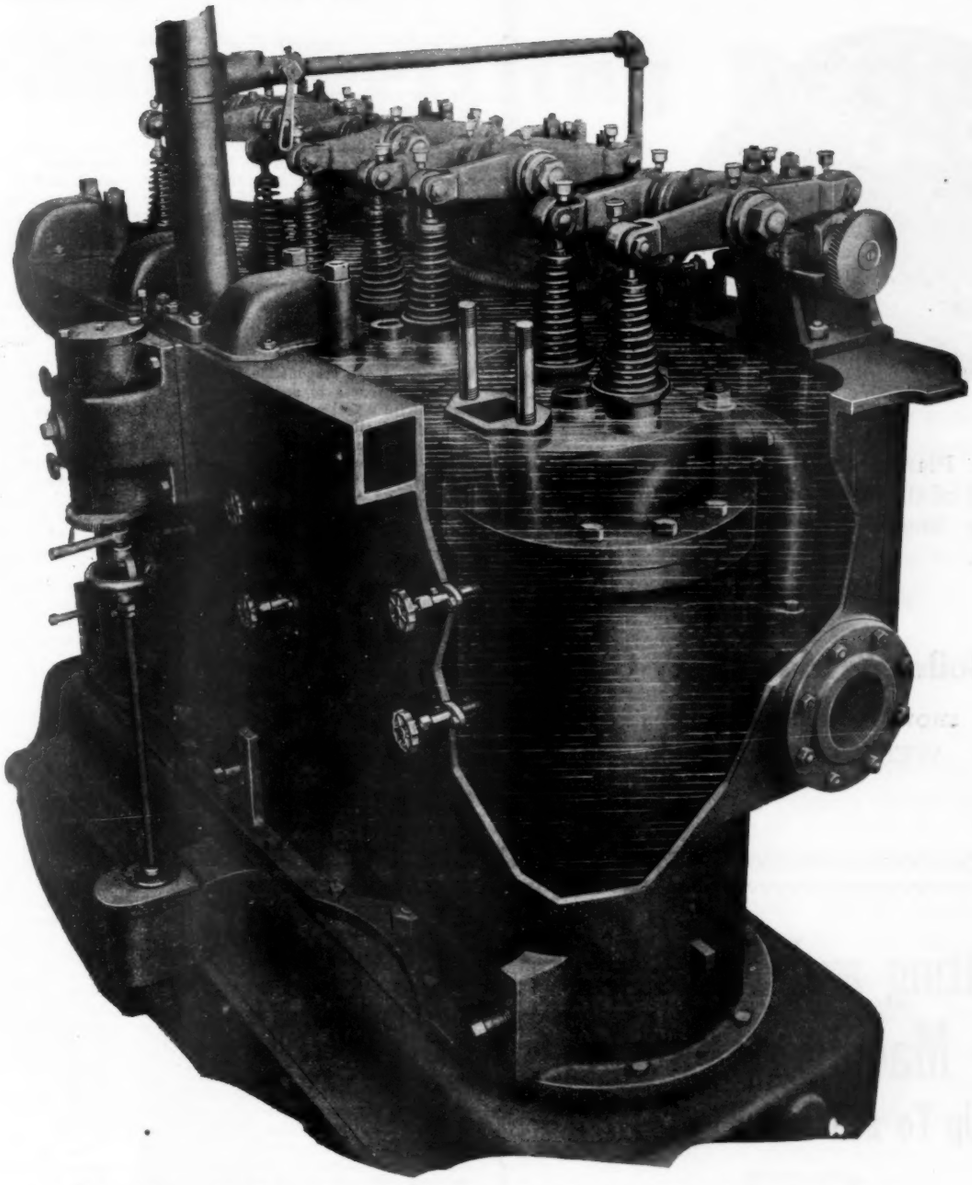
Each case must be investigated individually and no general recommendations can be given.

RUSSIANS USING OIL FOR POLITICAL ENDS

Soviet agents are reported inquiring of London bankers the possibilities of getting loans in exchange for oil concessions, suggesting British get concessions on oil lands outside of areas already exploited. They say there is no chance to reenter Baku Field, although Anglo-American Development Co. has purchased a large amount of Russian oil for the explicit purpose of keeping Persian oil from depressing British prices.

The Soviet continues to dump oil in Britain, offering kerosene at 12s under ring market price, seeming inclined to use this to induce Royal Dutch-Shell or Standard, or both, to agree to take their entire export to Britain and most parts of western Europe, only reserving such markets as Turkey where they propose to continue using oil for political ends.

Leading British companies are pleased with market prospects, anticipating no price changes in the British retail market in the near future. The Anglo-American Development Co. is believed to be connected with Anglo-American Oil Co.



Broken-away view illustrating the improved method of water cooling without water jackets (Patented)

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Time Tested Power Plants
Embodying Advanced Design

For the electrifying of your lease—refinery—gasoline or booster plants—use the

Bruce-Macbeth Gas Engine

direct connected to generator. It is not excelled by any other prime mover for paralleling under all load conditions.

Before deciding on your power plant equipment get our catalog and data on the performance of these engines.

BRUCE-MACBETH ENGINE COMPANY

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209 So. Cincinnati
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Cleveland, Ohio

Our Five Acre Plant located in the heart of the refining district of the Mid-Continent. One reason every employe knows how refining equipment should be built.

Tulsa Boiler & Machinery Co.

SHOPS LOCATED AT
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P. O. Address
Box 1963, Tulsa

Phones
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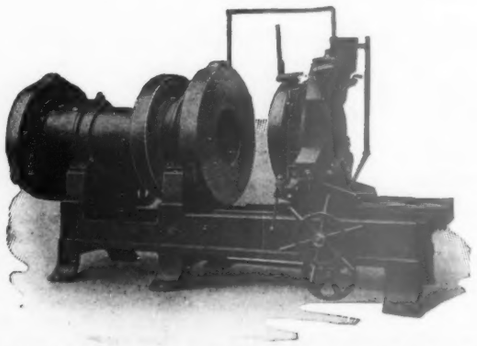
Pipe Cutting and Threading Machinery

Sizes Up To and Including 24"



Belt, Motor or Steam Engine Driven, also Equipped for Gasoline Engine Drive

All the important things about a Pipe Machine are here incorporated.

This equipment produces the highest quality of work and does so in a minimum of time and at a low operating cost.

The Verdict of Users in This Country and Abroad.

THE COX & SONS COMPANY
Bridgeton, N. J.
Business Established 1868

REASON FOR CUTS IN GASOLINE GIVEN BY NEW JERSEY STANDARD

The close relationship of tank wagon gasoline prices in the big consuming centers to the Mid-Continent f. o. b. refinery prices is emphasized in a statement by the Standard Oil Co. (New Jersey), contained in the forthcoming issue of the Lamp, explaining the reason for the recent cuts in gasoline in the New Jersey company's territory. Significance may be attached to the statement if it is to be credited that the tendency on the part of some of the major companies is to keep down the spread between the refinery and tank wagon price as much as possible. Actually changes in the spot refinery market are having increased immediate bearing on tank wagon prices throughout the country. Large stocks that the industry has been carrying over a long period are responsible for much of this sensitiveness to spot conditions, together with a feeling on the part of some students of oil conditions that many of the ills of the industry are attributable to an uneconomic relationship that has existed from time to time between the refinery and tank wagon price of gasoline. In another statement the company surveys the crude oil situation, and estimates that production this year will approximate that of 1924.

The explanation of gasoline prices follows:

Gasoline Price Changes

When a notice goes out to the trade advising of an advance of a cent a gallon in gasoline prices, it is a news story of importance. People call it to one another's attention and discuss it, usually with some degree of warmth. Ten years ago such a change in gasoline was not nearly so interesting, while 20 years back it did not matter enough to get a paragraph outside of the trade journals.

Verily, oil is coming on. It is taking its place with sugar and shoes in the list of the American family's everyday necessities. What it costs is known currently to every one. A fixed price for the automobile's dinner is almost as much a fetish with the householder as the 10-cent loaf of bread or the nickel subway fare.

When we go outside the list of things whose production may be controlled through a natural or artificial monopoly the price is fixed by the quantity in relation to the consumption. In that class are petroleum and its products. The price of crude oil and gasoline are fixed by the competitive efforts of the producers. It is beyond control or manipulation. A rising tide of either the raw material or any of the derivatives tends to bring about its own curtailment through its depressing influence on the markets. A shortage operates in the other direction: by advancing prices it stimulates production.

This is so obvious that it would be taken for granted in any other industry. The public does not accept it because of its recollection of a time when such a large percentage of the oil business was controlled by the Standard Oil Co. as to constitute a monopoly. That situation was effectively terminated 14 years ago. Since 1911, the forces of competition have had the fullest play. Year by year the number of new companies and investors has grown with great rapidity. Today competition would make short work of any company that tried to dictate and maintain a price out of line with basic conditions.

Most Fluid Commodity

Oil is the most fluid of all important commodities. Like credits, it abhors a vacuum. It moves east or west, north or south, into domestic or foreign consumption wherever the best market offers. There are no territorial lines restricting its movements. A new producing field of importance at once affects prices at wells hundreds of miles removed. An oversupply or deficiency of any of the products on the Pacific Coast has an immediate bearing on prices at the Atlantic Seaboard. Transportation drains a surplus from the higher level to the lower and stabilizes supply and demand. In 1920 California was short, and Mid-Continent gasoline flowed in to supply the deficiency. Three years later the fields in the Los Angeles basin poured out such an excess of crude over local needs as to initiate almost over night a heavy eastern movement of crude and partly finished gasoline stocks through the Panama Canal. Today drafts are being made on behalf of eastern refiners on light crude carried in Mid-Continent storage, while thousands of barrels of heavy crude are going into tankage at Smackover.

It is sometimes difficult even for a producer or refiner to account for a price change affecting his business, for this very reason. He sees conditions in his locality and draws his conclusions on that basis, failing to give proper weight to a surplus or shortage in another part of the country. Prices are made not by but for him.

But for the unexpected increase which has been obtained in recent weeks from a deeper sand at Smackover, the crude oil production figures would have shown a decrease. The fact that the Smackover crude is very poor in natural gasoline content does not lessen the psychological effect of an increase in the crude oil production figures.

Effect of Surplus

The domestic consumption of gasoline for the first two months of this year and the corresponding months of 1924, in gallons was:

	January	February
1924	500,420,561	402,383,876
1925	596,405,509	542,426,977
Increase	95,984,948	140,143,101

Domestic production in the same months makes the following comparison:

	January	February
1924	695,322,500	683,716,161
1925	831,652,370	790,441,679
Increase	136,329,870	106,705,518

This shows that the production of gasoline has been running ahead of the country's needs, although it is always necessary to put into storage considerable quantities of gasoline at this time of year to meet the peak demand in the summer months to come. Certain of the refiners, because of lack of storage or for reasons of finance found it impossible to follow the general policy of accumulating stocks during the winter months, and their surplus output, pressing for market, resulted in establishing a lower price in the primary marketing centers in Oklahoma and North Texas. The consequence of this was a drop in tank wagon prices on the Atlantic Seaboard as the surplus, pressing for market at any point, makes the price until the excess is absorbed.

The latest reduction in tank wagon prices initiated by the Standard Oil Co. (New Jersey) clearly illustrates the machinery of price making. The then prevailing tank wagon price, based on the cost of crude oil and manufacture, was low, but the offer of carload lots of gasoline at the primary market at a lower level of price enabled buyers to ship it into eastern markets and sell under the current tank wagon price, making it necessary to meet competition or lose sales, and the reduction natually resulted.

A statistician surveying the figures of production, storage and consumption might reach the conclusion that gasoline was selling at too low a price, but if considerable quantities were being offered at any point in the country at a price plus transportation under that prevailing in distant markets, those markets would have to come down. It is not a matter of what the suppliers think gasoline is worth, but what competition offers it for that determines the tank wagon price.

Crude Oil Survey

The company's crude oil survey follows:

At this writing it appears that domestic production of crude oil in 1925 will approximate that of 1924. This information, as the brokers say at the end of their letters, has been obtained from sources believed to be reliable, but is not guaranteed.

On the first of February, 1925, there was on hand in field and pipe line storage 168 days' supply, based on the cur-

Reduce Drilling Risks WITH Spang Weldless Jars!

"Indirectly, a set of broken jars caused our company to surrender leases on several thousand acres of land, broke the contractor, cost one year's additional rental on other leases and compelled us to take over the tools and finish the job at enormous expense." . . .

This from the Manager of a Producing Company, who adds:

" . . . . So far as I know, every contractor now drilling for us is using Spang Weldless Jars."

Had this contractor been using Spang Weldless Jars at the beginning his risk would have been greatly reduced as the chance of breakage and failures in Spang Weldless Jars is infinitesimally small. Good drillers feel safe when running Spang Weldless Jars. That's why they prefer them. Ask some about them and get real first hand information.

SPANG Jars Mean

Excellent Joints.
Greatly increased footage drilled.
Elimination of Jar Fishing Jobs.
Reduction of Drilling risk.
Three to five times as much service as other jars.
Increased profits.

SPANG Thread Protector

Protect your Tool Joints with Spang Thread Protectors. Like all Spang Products they guarantee absolute satisfaction and long durable wear.

Spang and Company
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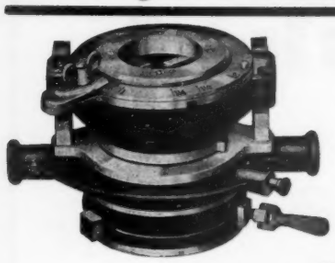
Sold at Leading Supply Houses Everywhere

It Pays To Use Good Tools



Why Change Dies?

No. 26 Beaver Ratchet
1 to 2″ Adjustable

Why bother with loose dies and bushings—when No. 26 Beaver Ratchet, like all Beavers, threads all sizes by simply shifting the dial plate to size. Changes from one size to another instantly. Universal chuck does away with loose bushings. Narrow receding dies make 2-inch easy with one hand. For close work as a ratchet—or for bench work as a plain stock—2 handles furnished.

Built to stand the gaff in the oil fields—and always cut perfect threads. Will last a lifetime. The biggest value in the realm of die stocks because of its advantages that no other die stock has. Complete within itself—Always ready for use.

Oil Field Supply houses sell thousands—buy through your supply house.

A COMPLETE CATALOG FOR YOU

The Pocket Beaver Catalog covers all Beavers from ⅛ to 12″. You ought to have a copy. Write for it.

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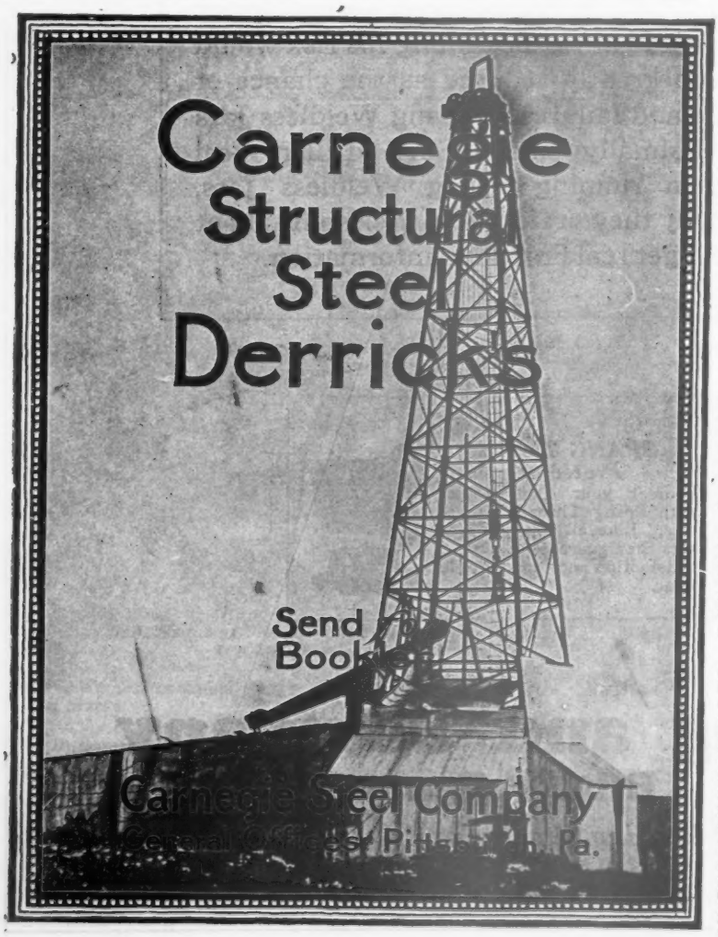
BEAVER

"The Easiest Way to Cut Good Threads"



rent rate of consumption. This compares with 155 days' supply at the end of 1924 and 180 days' at the end of last August. Daily production in March was 1,940,000 bbls., a decrease of 55,000 bbls. from the January average.

Nothing is more uncertain than the supply of crude and it is necessary to revise any estimate not long after the ink on it has dried. At the moment, the prospects for this year may be summarized as follows:

In all fields east of the Mississippi the supply should be maintained throughout the year by some new drilling and by cleaning out and shooting the older wells. In Kansas, efforts are being made to locate deeper sands. There should be a slight gain in Kansas production figures.

In Oklahoma there is likewise considerable drilling to deep levels and some new production may result from this work. There are a number of wildcat wells drilling which may develop some small pools, but nothing of major importance appears in sight. On the other hand, production is likely to decline in Burbank, Tonkawa, Papoose and Cromwell. The production of these four fields is still flush and going off rapidly. On the whole, Oklahoma production appears more likely to decline than gain this year.

Several shallow fields in Northern Texas may add to the Lone Star State's production. In West Texas the Big Lake Field of Reagan County promises a gain. Tests along the Balcones fault near Mabank have pretty thoroughly discredited what it was thought might be a good field. In the Gulf Coast fields, the recent high crude prices have stimulated drilling activity and with the opening of the South Liberty Pool has resulted in an increase of 25 per cent in the output of these fields.

There does not appear to be enough new work going on in Louisiana to maintain production there.

Little Gasoline Content

The discovery of a deeper pay in Smackover at 2,400 feet has added materially to the fuel oil supply. To date 97 wells have been completed which are producing 235,000 bbls. daily. The wells are quickly and cheaply drilled and have been coming in at an average of 3,500 bbls. each. The thickness of this new sand is about 9 feet and great haste is being made on the theory that the first wells in will get much more oil than those to come later when the sand is partly drained and the gas pressure lower. As a rule, a 9-foot sand does not yield enough oil to repay the cost of drilling. The heavy oil producing area at Smackover covers about 22 square miles but it is not thought the new sand will extend over a similar area. This new Smackover crude has little natural gasoline content and the lack of proper transportation facilities is causing a large amount of the new production to go into storage.

A deep sand has been discovered in the Salt Creek Field in Wyoming where one well came in at 5,500 bbls. initial production. Fort Collins, Colo., reports two good wells in a new field, but the oil taken out has to be transported by tank cars. Without pipe lines this field will no doubt develop slowly.

In California, the Los Angeles Basin fields have held up better than was expected. They are declining, but at a slow rate. Deeper drilling in the Ventura Avenue Field and elsewhere is keeping California production figures almost stationary.

An important development in Mexico recently was the completion of a 50,000-bbl. well by the Huasteca, a subsidiary of the Pan American Transport & Petroleum Co. This well is in the southern field in what is known as the Golden Lane. While it does not open up a new field it proves that there is still oil to be recovered by drilling in some of the old fields. In northern Mexico, the Cacalilao wells have shown an increasing tendency to go to salt water. North of that field are three new producing districts, Chapacao, Paciencia and the Corcovada. This appears to be a very spotted producing area. The indications are that Mexico will about equal last year's production.

DUTCH-SHELL MANAGER IMPRESSED BY VISIT

NEW YORK, May 9.—The oil industry is enjoying stable conditions, according to Sir Robert Waley-Cohen, managing director of the Shell Transport & Trading Co., sailing for Europe after a seven week's tour in the United States.

"There is nothing that I can see ahead which should make for any material change in general scale of oil price, one way or another," he added. "Consumption of refined oils is very large and increasing all the time. Of course, the oil industry has fluctuations in prices; some times they get too low and discourage new work to find production. At other times prices improve and stimulate new drilling. Because of the greater and wider uses of refined oils, it is becoming more vital to all lines of industry that the oil business be going forward."

Sir Robert's stay in New York marked the last stop of a six months' trip from London headquarters, during which he had visited British India, Australia, the Pacific Coast and numerous oil producing and refining centers of the United States.

Business of the Royal Dutch-Shell Group is good and its tanker fleet of approximately 1,300,000 tons is fully engaged, he said. Ten new Diesel engine tank steamers of 10,000 tons capacity each are being built as well as some shallow draught boats for service on Lake Maracaibo, Venezuela, where the Group has considerable property and production.

"Shell Union Oil Corp., he said, "has something like 100,000 bbls. a day of crude oil production in the United States, of which 17,000 bbls. is from the new deep sand in Smackover. I found the Shell Union properties in excellent condition and feel that the annual report for 1924 will prove satisfactory. On the Pacific Coast we have had extensive retail marketing operations for some years while retail marketing facilities in the middle west are gradually being extended from the start made about two years ago.

"The use of fuel oil by ships is constantly being increased and passenger vessels all over the world are converting to oil. The oil industry has done much to foster this for in every important harbor in the world ships can find facilities for bunkering with oil. We have a large bunkering station here in New York Harbor which is handling a good business, the fuel oil being brought by tanker from Mexico.

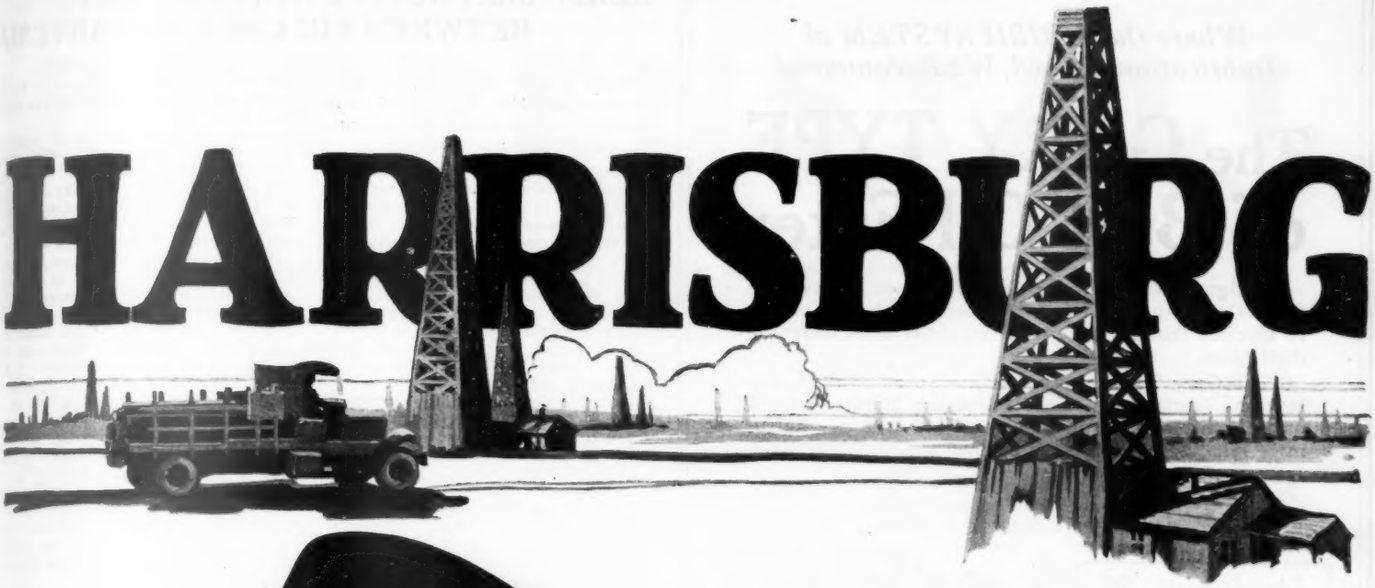
"It is about eight years since I last visited the United States and at that time I was not able to inspect the producing districts. This time I had a much longer stay and saw a number of the producing districts and refining centers. The marked advance in scientific methods used to find new oil producing areas impressed me very much as did the improvements in refinery practice."

Asked regarding the situation in Rumania, he felt there had been some change for the better and added that Rumania could not expect to develop its natural resources to the fullest without the aid of foreign capital. Exports of refined oils from Russia are mostly kerosene and not in important quantity.

ITALIANS BUY TANKER; WAIT FOR CHAMPAGNE

HOUSTON, Tex., May 9.—The tanker W. S. Porter has been purchased by the Petroleum Societe Anonima di Navigazione of Geona, Italy, from the Associated Oil Co. of California and is now at the Baytown refinery of the Humble Oil & Refining Co. loading a cargo of refinery products for western Italian ports. Giuseppe Chirarella, a director of the Italian Oil Co., supervised the transfer and the replacing of the Stars and Stripes by the Italian banner. The vessel was built at Newport News and has been in service between San Francisco and San Pedro, Cal. The ceremony of rechristening the tanker will be deferred until it reaches an Italian port because of the Volstead Act forbidding the use of the customary bottle of champagne.

HARRISBURG



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Bank on Harrisburg

With so many chances for a "tough break" in these days of intensive drilling in crowded fields, there is still less excuse for taking chances on oil field equipment. That "the best is cheapest" is being proved in the drilling of oil wells as nowhere else. And that "best," in the language of the oil country, is but another name for Harrisburg.

Every Harrisburg Forged Seamless Steel Product is plainly marked with the Harrisburg trade mark—an assurance of uniform strength, perfect construction and complete satisfaction. And what else could you expect from special oil field steel, forged seamless by Harrisburg methods?

Every user of Harrisburg Forged Seamless Steel Couplings, swedged nipples, bull plugs and other oil field equipment knows the dollars and cents value of quick and uninterrupted production, fewer replacements and lower operating costs.

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Where the FLUSH SYSTEM of Lubrication is Used, We Recommend

The GARY TYPE *of* Burt Oil Filter

Designed especially for the Gary plant of the U. S. Steel Corp., the Burt Filter illustrated below proved so efficient that we have received order after order for duplicates.

The Gary Type is especially adapted to flush systems of lubrication. The bone-black being removed, only the filtering cloths and water are used as filtering material. Gary Filters may be used either independently or in series.

Let us send you blueprints showing this popular model in detail.

The Standard Oil Co. has placed 469 orders with Burt. The U. S. Steel Co. has placed 440.

THE BURT MANUFACTURING COMPANY
Pioneer Oil Filter Manufacturers

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Because of 1925 Indications It Is Wise to

Make Leasing Arrangements Now

1925, according to all indications, is to be a big shipping year. That means big demands on rolling stock.

By making leasing arrangements now, you assure yourself of the facilities needed to take care of your requirements.

North American, as always, is at your service.

If you *own* cars, now is the time to get them in shape. Our three big repair shops are at your service.

NORTH AMERICAN CAR CO.

327 S. LaSalle St., Chicago, Ill.
Southwest District Office:
Petroleum Bldg., Tulsa

LEASE MEN ACTIVE IN TERRITORY BETWEEN BIG LAKE AND ARTESIA

FORT WORTH, Tex., May 9.—There has been something of a revival of interest in the oil possibilities of Upton County the past few weeks, due in all probability to developments in Reagan County, adjoining Upton on the east. Dry holes drilled in practically every direction from the present producing area in Reagan County, especially to the north, east, south and southwest has undoubtedly led to the hope on the part of some that there may possibly be some connection between the Reagan County producing area and the prospective area to the west.

It is reported that Green and Donovan of Tulsa, Okla., have taken over the Upton County test known as the Flat Rock well, located on Section 2, Block 4, Texas University lands, and are now setting the 10-inch casing at around 1,000 feet. This test was started some time ago but has suffered sundry delays.

The report is also current that the Big Mesa well, located in Section 17, Block 3, Texas University lands, eastern part of Upton County, has been re-financed and that the hole will be rushed to completion. This well is being drilled by California parties. The well has been shut down for some time between 500 and 600 feet in depth.

It is known that Morris and others of Fort Worth have been making excellent progress in the financing of their test well on the Henry Halff ranch, Section 50 Nancy A. Lee survey, 6 miles north of the town of Rankin in Upton County. This well has also been shut down for some time between 500 and 600 feet. Drilling is expected to be resumed on this test within a very short time now.

About six of the major oil concerns hold extensive leases in the southwestern part of Upton County, in all about 30,000 acres which is practically in a solid block. Among these companies are The Texas Co., Marland Oil Co., Sun Oil Co. and the Texas Pacific Coal & Oil Co.

With the revival of interest in Upton County and other sections to the west of the Big Lake Field in Reagan County, considerable leasing activity is evident through a strip of western Texas extending in a general northwesterly direction from Big Lake, on toward the Artesia Field in New Mexico. Already lease men have conceived a line of oil pools stretching from Reagan County northwest into the Artesia country.

This, however, is speculative as yet, though its possibilities are not to be frowned at. As yet there is absolutely no sub-surface geology, except at very scattered points and there is very little of a geological nature on the surface from which geologists can draw anything like definite conclusions.

However, the fact that the vanguard of lease men is now working in that territory and the fact that already several large blocks of acreage have been taken may be taken as an indication that some time in the very near future an effort will be made to link up the Big Lake with the Artesia Field. True these two areas are far apart, but some day the drill no doubt will follow the trail of the lease hound.

VISITOR FROM AUSTRIA IN SOUTHWEST FIELDS

HOUSTON, Tex., May 9.—P. P. Prandstetten, former captain in the Austrian Army and now general field manager for the Vacuum Oil Co. in Europe, is touring the Southwest to study oil drilling methods in this country.

From here Mr. Prandstetten will visit the Liberty fields and then go to Lake Charles. He has been in Poland for 18 months, where his company is carrying on an extensive drilling campaign north of the Carpathian Mountains.

There has been a great change in the drilling situation since the war, he thought. In pre-war days, when oil could be obtained at an average maximum depth of 3,000 feet, it was possible for a large number of wells to be sunk by individuals. Now, when it is necessary to drill 4,500 to 5,000 feet, the cost is practically prohibitive for individuals and almost all drilling is being done by the larger companies.

Besides his own American-financed company and the Oleg Skalmy (Standard Oil), there are several French companies operating in the Polish fields, he said. Since the post-war division of Austria-Hungary, the Vacuum Oil Co., with headquarters at Vienna, finds its "overboard" there controlling companies in five different Central European countries—Austria-Hungary, Czecho-Slovakia, Poland and Jugo-Slavia.

The Austrian oil man was highly interested in the convenience of automobile touring in this country.

"Your many filling and service stations and well-supplied garages make automobile touring much less expensive than it is in Europe. Over there a man who owns an automobile usually has to employ a chauffeur to drive and take care of it, keep it in fuel and repair. The owner has to keep a reserve supply of parts."

GASOLINE ROTARY IN MEXICO

The first gasoline driven rotary to be used in Mexico is being brought in by Mordelo Vincent Compania for wildcat operations at Casa de Liedras. This is 35 kilometers from the nearest production in Salinas, Vera Cruz. Well No. 1 was started with standard tools, but was forced to be suspended as little or no hole would be made in the extremely soft formation encountered and, in view of the fact that the company will make three tests on this property immediately, it was decided to try the gasoline driven rotary because of the practical impossibility of obtaining fuel oil in that section without the building of steel storage as well as the hauling of fuel from Tampico.

BOILER OIL FOR DIESELS?

A question which is greatly interesting shipowners, especially those who have recently ordered oil-engined craft, is the possibility or desirability of utilising boiler oil in Diesel engines. Generally speaking, the builders are not in favor of its use, although there would be a considerable saving in the fuel bill, but there are many who believe that with suitable purification by means of centrifugal machines the boiler oil would be rendered satisfactory for most types of Diesel engine. In order to throw some light upon this subject, says a writer in the "Times Engineering and Trade Supplement," tests have recently been carried out on three of the best known types of centrifugal separating machines by passing various grades of boiler oil through them and analyzing the fuel before and after treatment.

LOWER RATES TO CASPER

CASPER, Wyo., May 9.—The Interstate Commerce Commission has authorized a reduction in freight rates from Middle West points to Casper which will result in a saving of $100,000 annually to industries in this district. A new schedule has been drawn up, effective July 10. Oil well supplies, automobiles and practically every class of freight comes under the new schedule. Rates from Chicago to Casper have been reduced 80 cents on the hundred; from Omaha and Kansas City, 38 cents; from St. Louis, 58 cents, and from St. Paul 87 cents. No appeal from the new schedule is expected.

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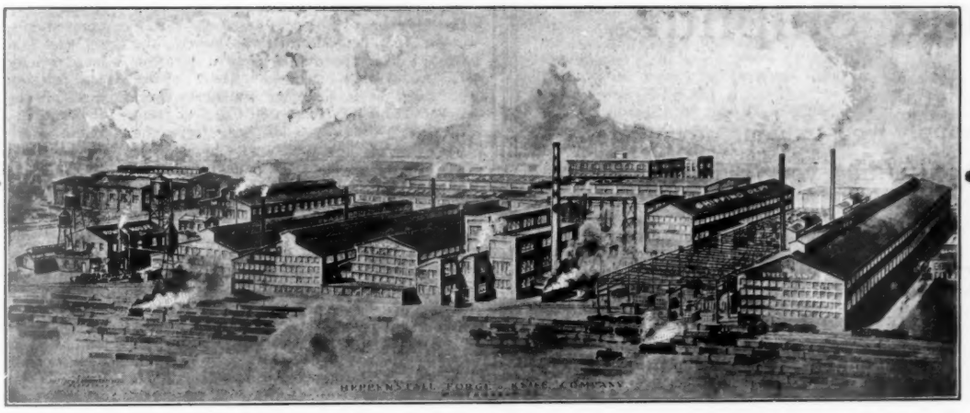

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R E S U L T S

CENTRAL WEST

(Continued from Page 108)

son Township, Perry County; No. 1 H. W. Mowert farm, Section 15, Washington Township, Hocking County; No. 1 F. and M. Palmer, fractional Section 1,022 Barlow Township, and getting ready to start No. 1 on the L. S. Parks farm, Section 22, Hopewell Township, Perry County.

Thomas Orendorff's test 375 feet from the south line and 950 feet from the east line of the J. G. and C. C. Hayes 156 acres, Section 16, Barlow Township, Washington County, showed approximately 200,000 feet of gas from the Maxburg sand at 1,000 feet.

In Coal Township Perry County, the Ohio Fuel Supply Co. made a location for No. 3 well on the southwest corner of the Charles Trimmer 160 acres, Section 36, and for No. 6 well 920 feet from the south line and 330 feet from the west line of the same farm. Same company is shut down at a depth of 873 at No. 1 C. W. Hazlett farm, Section 36, Coal Township, Jackson County. Same company is starting the drill at No. 1 on the Anna O'Donnell farm, Section 14, Washington Township, Hocking County, and making a deep test on the George Carlyle farm, Section 30, Aid Township, Lawrence County. The last account from the well was at a depth of 3,007 feet.

The Ohio Fuel Gas Co.'s No. 1 on the S. E. Pyle farm, Section 17, Madison Township, Perry County, is looking worthless and will be abandoned.

Illinois

Another duster has been credited to the Coles County, Illinois, area. This is H. McCurdy and others' test 700 feet from the south line and 100 feet from the west line of the south 50 acres of the J. M. Oliver farm, in the west half of the northwest quarter of Section 17, Asmore Township. The hole was drilled to a total depth of 685 feet and given up as worthless and the drilling outfit will be moved to some other location in that area, as the McCurdy interests are bound to develop a pool somewhere in the county, even if it takes the 10 tests planned when work first started. The last well is the third to be drilled.

In Parker Township, Clark County, Lusk, Stratton and others' test 200 feet from the south line and 475 feet from the west line of the J. W. Barbee farm, in the north half of the southwest quarter of Section 15, proved a dry hole at 424 feet. Bullock and others are drilling a test on the N. P. Daugherty farm, Section 10.

In Martinsville Township, Clark County, the Trenton Rock Oil & Gas Co.'s No. 11 well 660 feet from the north and west lines of the John Carper farm, in the northwest quarter of Section 30, pumped 50 bbls. from the stray sand at a total depth of 1,410 feet.

In Honey Creek Township, Crawford County, John Phipps' No. 7 on the southwest corner of the D. A. Funk, in the southwest quarter of Section 36, pumped 5 bbls. at a depth of 1,014 feet.

In Bridgeport Township, Lawrence County, the Ohio Oil Co. abandoned No. 11 on the S. W. Severns farm, Section 6.

Indiana

All sections of the Indiana Field are very quiet, with prospects of a revival when the mud roads become passable and the operators realize the market will remain stable.

The Ohio Oil Co. drilled a dry hole in a test on the southwest corner of the Carl Skinner farm in the southwest quarter of Section 9, Monroe Township, Pike County, and in the Princeton district, in the southwestern part of the State. The drill was sent to a total depth of 1,403 feet. Same company is starting a second test on the Della Wilson, Section 16.

J. F. Bolinger and others' third venture, 330 feet from the north line and 100 feet from the east line of the W. W. Harris farm, in the northeast quarter of the southeast quarter Section 2, produced 10 bbls. from a depth of 732 feet.

OIL SHOWING REPORTED ON CAPE SABLE ISLE

CHATHAM, Ont., May 9.—Cape Sable Island, off the southernmost portion of the Nova Scotia Peninsula, is reported to show pronounced surface indications of oil. So far no scientific tests have been made whether the oil is petroleum or merely some exudation peculiar to the soil of the island.

Oil showings have been reported frequently in the course of the last few months. At first people living on the island attributed the discoveries to practical jokers; but their persistence through a period of several months has aroused interest.

Cape Sable Island should not be confused with the more famous Sable Island often referred to as "The graveyard of the Atlantic." The latter lies due east of Nova Scotia at considerable distance, while Cape Sable Island is to the south and separated from the mainland by only a narrow stretch of salt water. Cape Sable Island is about 7 miles long and 3 miles wide, and consists of low lying savannahs encircled by a ridge of higher ground where the homes of the few hundred inhabitants are chiefly located. Clarke's Harbor is the only "town" on the island.

When the first oil discoveries were reported, it was thought possible the oil had been jettisoned by some oil-burning steamer and washed ashore by the tides. Later investigation showed that all the oil indications had originated in the savannah occupying the interior of the island. At the present season this is largely under water, and a brook which finds its source in the savanah and flows down through Clarke's Harbor has carried down steadily increasing oil indications. Samples of the oil secured from the brook were found to burn readily; and arrangements are being made for an expert test of the oil showings.

CONTROL OF COLOMBIA SYNDICATE IS SOUGHT

NEW YORK, May 9.—Stories linking the Atlantic, Gulf & West Indian Steamship Lines with the Standard Oil Co. of Indiana are based, it was learned upon the fact that the South American Oil & Development Corp., which is one of the affiliations of the Standard Oil Co. of Indiana through the Pan-American Eastern Petroleum Co., is anxious ultimately to take over control of the Colombia syndicate in which the Atlantic Gulf Oil Co., subsidiary in turn of Agwi, owns a 30 per cent interest.

The Colombia syndicate owns or controls more than 1,000,000 acres of oil in the Republic of Colombia immediately north of the properties owned by the Tropical Oil Co. The syndicate's property is understood to have been watched with interest by Sir James Currie, British oil magnate who is now head of the South American Oil & Development Corp. He is also head of the British Mexican Petroleum Co., the British organization included in the Pan-American combine which was formed when the Doheny interests sold out to Standard of Indiana.

British Mexican Petroleum, headed by Sir James Currie, owns 800,000 shares of the Lago Petroleum Co. of Venezuela. These shares are now under control of the Standard Oil of Indiana, but the amount owned does not carry control. About 1,250,000 shares additional of Lago are said to be wanted.

BRITISH USE MORE GASOLINE

British gasoline consumption in 1924 was 64,000,000 gallons, an increase of 25 per cent over 1923. Imports of gasoline increased 27 per cent. Only 2 per cent went into storage. Larger consumption was due to the greater number of buses and pleasure cars in use. Better weather this spring, wider car use and low gasoline prices lead oil companies to expect a further increase in gasoline consumption this year. Anglo-American Oil and Shell company are enlarging their plants.

America's Interest In Oil Abroad

Foreign Production in Our Hands not Sufficient to Assure us of a Continuing Supply. Would Relieve Drain on Our Resources.

By Charles E. Kern

WASHINGTON, D. C. May 11.—Recently a group of oil men with large present and prospective foreign interests in petroleum held a conference for the purpose of arriving at a consensus of opinion in respect to inquiries being made by the Federal Oil Board concerning the world's supply of oil and kindred questions relating to its effect on the industry.

Among the records that came before this group of oil men was the report made two years ago by a special committee of the Mining and Metallurgical Society of America, of which A. C. Veatch was chairman; A. W. Ambrose, then chief petroleum technologist of the United States Bureau of Mines; David White, then chief geologist of the United States Geological Survey; Van H. Manning, then chief of the Research Division of the American Petroleum Institute, and C. W. Washburne, a consulting geologist specializing in petroleum. This group approved the views expressed by this distinguished special committee which pointed to a vast reserve oil supply abroad which no one can at this time fully approximate. Tersely expressed the views of this subcommittee follow:

"The oil resources of the world are doubtless much larger than the recently published estimates, and improved methods of recovery should enormously increase the difference. It is now demonstrated that commercial petroleum may possibly occur in sedimentary rocks from the Cambrian to the youngest, if the alteration has not gone too far, and in any structural position. The sedimentary rocks occupy the greater part of the earth's surface. Those found in the United States are but a small part of the sedimentary rocks of the world as a whole. It is only in the United States that these sedimentary rocks have been extensively developed for oil, and, great as the development has been here, the oil in the sedimentary rocks of the United States is by no means exhausted. The conclusion may be stated proportionally: as the ultimate production of the United States will be to the area of the sedimentary rocks of the United States, so the ultimate total oil production of the world will be to the whole area of sedimentary rocks of the world."

Oil Resources Vast

This conference summed up the oil situation of the world with the view that the oil resources of the world are vast, and there is no basis for any apprehension that the "era of petroleum" is drawing to a close. There is, however, every reason for believing that the world's demand for petroleum will continue to grow and this will require increased production, particularly in regions outside of the United States. Vast as the oil resources of the world are they must be developed, and more uniformly, if the constantly increasing needs of civilization are to be supplied and if the other industries of the world are not to suffer retardation through lack of oil.

Most of the world's oil resources have not been brought to a point where they are capable of affecting the world's markets, or of contributing to the supply of the world's needs, they believed, and their development will require large capital outlays and long periods of time. They do not exist in a condition which makes it possible to supply the needs of any given moment by turning on some magical tap. Their development has required, and will require, the negotiation of contracts, the careful exploration of the ground, the drilling of tests, and after the completion of successful wells the establishment of transportation facilities—all of which consume time and then, more time. The history of the foreign fields is that it has taken from 10 to 20 years in each district from the date of the initiation of a project to bring it to a commercial basis.

Such is the time factor in any region, they agreed, that no undeveloped oil deposit can be counted on to meet any sudden emergency, as the emergency will in general have passed before the necessary work can be done.

In short, not only the very magnitude of the oil resources of the world, but the magnitude of the difficulties to be overcome—political, financial and technical, including the inevitable time factor in each case—will prolong the life of the oil resources of the world beyond any accurate or even approximate calculation possible at the present time.

Calculating Consumption

Their conclusion was that there is no imminent shortage of oil in the world.

Before there is a real stringency in the oil supply they were satisfied that the price of oil would advance, which would bring to the market stored oil and a certain amount of partially shut in or partially worked production.

The men attending this recent conference pointed out that the rate of increase of consumption cannot be expected to increase at the phenomenal rate shown in the last 20 years.

The more oil received from foreign countries in proportion to the world's demand the less will be the drain on our own resources. The situation leading to this conclusion is summed up in the following way:

In 1903 the industry approximated 200,000,000 bbls. This really colossal figure was doubled at the end of the next 10 years (1913) and it required only eight more years (1921) to double the double. A continuation of this phenomenal rate of increase would mean that at the end of the ensuing six years (1927) the 1921 figure would be doubled—that is to say, would be eight times the figure of 1903. Enough of this hypothetical six-year period has now passed to warrant the assertion that notwithstanding the overproduction of the past two years, with its corollary of low price and consequent stimulus to consumption, the increase has slackened somewhat from the rate shown between 1903 and 1921. While the phenomenal rate of increase of the past 20 years will certainly not continue and while the inevitable increase in the price of oil and oil products will still further check the rate of increase, it is safe to assert that the world's demand for oil will continue to grow. The production of the world is today in excess of 1,000,000,000 bbls. per year, and it is evident that to meet the decline in existing wells, as well as the increase in the world's demand, the oil resources of the earth must be actively and energetically developed.

Drain on America

Owing to American initiative, American temperament, and our own phenomenal industrial and social development, the oil fields of the United States are now more fully developed than those of any other part of the world. It has been suggested that this development of our fields has been in many respects prodigal and wasteful, but it is nevertheless true that to an important degree the "era of petroleum" in which we live has been created and has grown, owing to this very prodigality and wastefulness. However, although it is paradoxically true that this prodigality and wastefulness has resulted in the past in the achievement of useful ends, this is certainly no good reason for holding that it would not be the part of wisdom to take with as little delay as possible those steps looking to the safeguarding of the future which are economically possible and which are within the realm of reason.

More than 60 per cent of the earth's annual production of oil comes from the United States—that is to say, we are producing 50 per cent more than all the other countries of the world combined—and of the total oil that has been thus far removed from the earth more than 60 per cent has likewise come from the United States. It follows inevitably from these simple facts that the oil resources of the United States are much more nearly exhausted than those of the rest of the world.

Owing to development of special transportation facilities the world's oil market has tended to become more and more a unit, and the whole world supply is thus to be balanced against the whole world demand. It follows that the more oil that is produced from other countries in proportion to the world's demands, the less will be the drain on our own resources. The life of our oil supply depends to an important degree on the rapidity with which the oil of the rest of the world is developed and brought to market. Production from other countries under commercial conditions will contribute toward delaying the exhaustion of our own supplies; the more foreign oil is thus produced the longer our own resources will last, and the more rapidly such foreign oil is brought to market the greater will be the conservation of the oil supplies of the United States, and by the conservation of the oil resources of the United States is meant the prolongation of their useful life.

Foreign Supply Our Relief

The simplest and most effective way of extending the life of the oil resources of the United States is to intensify the production of oil on a commercial basis in other parts of the world.

Because of the special knowledge and experience gained in the large development in the United States, Americans are best qualified to speed up the development of the world's oil resources and it is important, in our own interest, that no steps be neglected which will have the effect of pressing such work forward and of affording the necessary opportunities.

The production of oil outside of the United States at the present time is less than the total foreign requirements, and the deficit is being supplied by petroleum obtained from the United States. The measure of this deficit is roughly the difference between the imports into the United States and the exports, which difference during recent months has averaged somewhere in the neighborhood of 2,000,000 bbls. per month.

Increase in price would speed up foreign production and at the same time probably to some extent decrease foreign consumption. It would certainly slacken the rate of increase of foreign consumption. Production of oil outside of the United States could be brought up quickly to an amount equal to foreign requirements with some possible slight excess. The excess of foreign oil over foreign requirement which it would be possible to produce in the near future, would be an extremely small fraction of the consumption of the United States. The greatest retarding factor in any rapid increase in foreign production over consumption in the immediate future, is that the Russian fields could not be expected to respond to stimulus as rapidly as they would if

(Continued on Page 126)

MORE OIL FROM GULF TO EAST; LESS FROM CALIFORNIA IN APRIL

By L. M. Fanning

NEW YORK, May 9.—Estimated receipts of crude and refined oil at Atlantic Coast ports averaged 532,000 bbls. daily during April, against 490,000 in March, a gain of 42,000 bbls. The total receipts in April were 16,043,000 bbls., against 15,219,000 in March.

April, 1925, receipts were only slightly larger than those of April last year, when total receipts averaged 528,000 bbls. daily. The source of the receipts as between the two months differ somewhat, however. In April of this year receipts from the Gulf Coast averaged 353,000 bbls. daily against 262,000 bbls. last year, a gain of 91,000 bbls. in the daily average. Receipts from the Pacific Coast averaging 78,000 bbls. daily show a decline of 65,000 bbls. compared with the daily average of April, 1924. Imports in April, 1925, averaging 101,000 bbls. daily, compared with 123,000 bbls. daily a year ago.

The increase in receipts from the Gulf Coast may be attributed to large withdrawals of Central and North Texas crudes from Houston by Atlantic Coast refiners. These are light oils much in demand at present, as opposed to the heavy grades of oil produced in such fields as Smackover, Arkansas. The increased production in Smackover is reflected in increased shipments from the New Orleans district. Daily average receipts from New Orleans and Baton Rouge were 72,000 bbls. against 49,000 bbls. in March.

The following table shows estimated daily average receipts of crude and refined oils by water at Atlantic ports from the principal shipping areas: (in barrels):

	April 1925	March 1925	April 1924
New Orleans	72,000	49,000	41,000
Port Arthur	128,00	105,000	141,000
Houston	153,000	119,000	80,000
Gulf Coast	353,000	273,000	262,000
Pacific Coast	78,000	82,000	143,000
Imports	101,000	135,000	123,000
Grand Total	532,000	490,000	528,000

Despite a temporary revival in shipments of California oil through the Panama Canal to eastern markets, the average shipments for April, as noted, do not equal those of March, and are far below those for April of last year. Such companies as Standard Oil Co. of New Jersey are taking about two-thirds as much California oil as they did a year ago. Many shipping agents that were contracting for large quantities of California bunker fuel oil a year ago are now getting their oil elsewhere—principally in the Gulf Coast.

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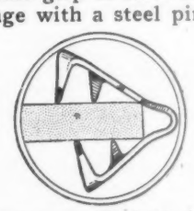

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F-507

EASTERN FIELDS

(Continued from Page 54

a dry hole in the Gordon and all upper sands at a test on the N. H. Kyser farm. In the same district and locality, Barker & Smith have a duster in the Big Injun sand at a test on the Haymond heirs' farm. On Little Paw-Paw Creek, Paw-Paw district, Marion County, the Owens Bottle & Machine Co. completed tests on the W. S. and Margaret Clayton farm. Both are gassers in the Big Injun sand. On Little Creek, Spencer district, Roane County, the United Fuel Gas Co. started to drill a test on the A. J. L. Meadows farm. The Carter Oil Co. is drilling on the L. S. and Mary E. Goff farm.

Completing Gas Wells

On Poca Fork of Little Sandy Creek, Elk district, Kanawha County, the South Penn Oil Co. completed in the Big Injun sand a test on the Virginia Dodd farm good for 600,000 feet. The location is 1,500 feet east of the company's test on the Mary S. Dodd farm. On the same stream and same district, 800 feet west of the Columbia Carbon Co.'s No. 4 on the C. W. Vickers farm, the United Fuel Gas Co. has much better than an average gasser at a test on the C. E. Halstead farm. It is estimated good for 3,000,0000 feet in the salt sand. On the same stream 1,300 feet south of the same company's test on the Barnum Jarrett farm, the company completed in the Big Injun sand a test on the May Jarrett farm, good for 1,000,000 feet a day.

On Turkey Run, Ten-Mile district, Harrison County, the Salem Oil Co drilled a second test on the J. H. Benedum farm through the fifth sand good for 20 bbls. a day. This is better than the average size. On Paw-Paw Creek, Paw-Paw district, Marion County the Owens Bottle & Machine Co.'s test on the D. Cunningham farm is a light gasser in the Big Injun sand.

In the new Cow Run sand development in Lubeck district, Wood County, Stout Brothers & Co. completed No. 4 on the W. L. Munchmyer farm good for 5 bbls. a day. In Sheridan district, Calhoun County, Martin Crowley has a gasser good for 500,000 feet at a test on the Don & M. J. Keller farm. In Center district, W. H. Bickel has a small gas well in the Big Injun sand at a second test on the Emily Smith farm.

Drilling and Starting Tests

In Simpson district, Harrison County, the Aizpurin Gas Co. has skidded the rig at a test on the Nathan Richards farm. In Eagle district, P. F. Coger is cleaning out to drill deeper a test on the P. F. Coger farm. In Clay district, the Rider Oil Co. is due in the Big Injun sand at a test on the Clyde Southern farm. The Star Oil & Gas Co. is hauling rig timbers to a second location on the A. R. Brake farm, in Troy district, Gilmer County. In Glenville district, the Pittsburgh & West Virginia Gas Co. is rigging up on the G. M. Moody farm. In Collins Settlement district, Lewis County, the Mud Lick Oil & Gas Co. has started to drill on the George Arnold heirs' farm. In Central district, Doddridge County, F. J. Gillespie is drilling on the Littleton-Fetty farm. In the same district, C. H. Pigott has made a location on the Benjamin E. Hefflin farm. In Grant district, Ritchie County, J. O. Netzer is fishing at 1,050 feet on the R. W. Shaw farm.

In Liberty district, Marshall County, the Manufacturing Light & Heat Co. is building rigs for tests on the A. B. Stern and A. W. Evans farms. The same company started to drill on the I. P. and P. Chambers farm. In Meade district, the Hope Natural Gas Co. is rigging up on the L. W. Richards farm and made locations on the George Stern and Joshua Yoho farms. In Center district, Wetzel County, the Hope Construction & Refining Co. started to drill on the C. E. Yeater farm. The Lynn Camp Oil & Gas Co. is drilling on the Thomas Blake farm, in Meade district, Marshall County. In Freemans Creek district, Lewis County, the Reserve Gas Co. is still fishing at 3,200 feet on the H. Hughes farm.

Fishing at Deep Test

In Guyandotte district, Cabell County, Darnell & Cottle are down 3,300 feet at their deep test on the Edward Galliger farm and fishing out a set of broken jaws In McComas district, the Star Producing Co. is due in the Big Injun sand at a test on the Walter Swann farm. In Curry district, Putnam County, Roy and McComas have part of the rig material at a location on the J. L. Pullen farm. In Carroll district, Lincoln County, the Columbia Gas & Electric Co. is drilling on the F. M. Vickers farm.

In Carroll district, Lincoln County, the Grant Gas Co. is rigging up at a test on the Leander Miller farm. In Elk district, Harrison County, the Grasselli Chemical Co. started to drill a second test on the Robert Shuttleworth farm. In the same district, the same company is due in the Gordon sand at a second test on the Mary Lawson farm. In the same district, the Clarksburg Light & Heat Co. has made a location on the John Patton & Co.'s farm. In Geary district, Roane County, the Newton Gas Co. has a rig up on the B. J. Hudkins farm. In Smithfield district, the United Fuel Gas Co. has part of the rig material at a location on the J. B. Stone farm. In the same district, the Carter Oil Co. started to drill on the Simmons heirs' farm.

In Center district, Gilmer County, the Hope Natural Gas Co. is building the rig for a test on the Amanda Queen farm. In DeKalb district, the Pittsburgh & West Virginia Gas Co. has the rig completed on the H. H. Haney farm. In Burning Springs district, Wirt County, the Standing Stone Oil Co. is due in the sand on the W. R. Hays farm. The Hays Oil Co. has drilled to a depth of 1,950 feet and shut down on the E. F. Raybuck farm, in Sheridan district, Calhoun County. In Center district, Gilmer County, the Ohio Fuel Oil Co. is rigging up on the William Wilmoth farm and Satterfield & Co. are rigging up on the E. W. McClain farm. The Pittsburgh & West Virginia Gas Co. is due in the Big Injun sand on the Henry Vanhorn farm, in Clay district, Wetzel County. In Center district, the Myers Oil & Gas Co. has part of the rig material at a location on the J. A. Woods farm. In Church district, W. Null & Co. are due in the sand on the Thomas Phillips farm. In the same district, the Hope Natural Gas Co. has a rig up on the Elmira Matney farm.

In Grant district, Ritchie County, the West Virginia Light & Heat Co. started to drill on the John Sandy farm. In the same district, the Warrior Oil Co. is drilling on the Anna Harris farm. In Murphy district, the Hope Natural Gas Co. is drilling on the Elias Connolly farm. In the same district, E. E. Pope is due in the Big Injun sand at No. 7 on the M. S. Gaceebrill farm. In Grant district, P. H. McDonough has the rig completed for a test on the N. D. Mason farm.

Southwst Pennsylvania

The fourth sand development in North Strabane Township, Washington County, after a run of light pumpers and dusters, has come back with a fair producer. It is Conklin & Glass' test on the V. W. Conklin farm and is good for 20 bbls. a day in the fourth sand at a total depth of 2,613 feet. In the same township, Robert Hayes & Co. started to drill a test on the William Thome farm. Tague, Lutton & Co. are drilling a test on the C. A. Carothers farm and P. G. Kennedy and others are due in the sand at No. 3 on the R. D. Wylie farm.

In South Franklin Township, the Manufacturers Light & Heat Co. has a gasser in the fourth sand at a test on the Charles Hazlett farm. In South Franklin Township, the same company is drilling a second test on the C. L. and J. Lacock farm. In Penn Township, Allegheny County, the South Penn Oil Co.'s No. 5 on the George Woodside farm is a very light pumper in the 100-foot sand. In the same township, the American Natural Gas Co. has the rig

(Continued on Page 128)

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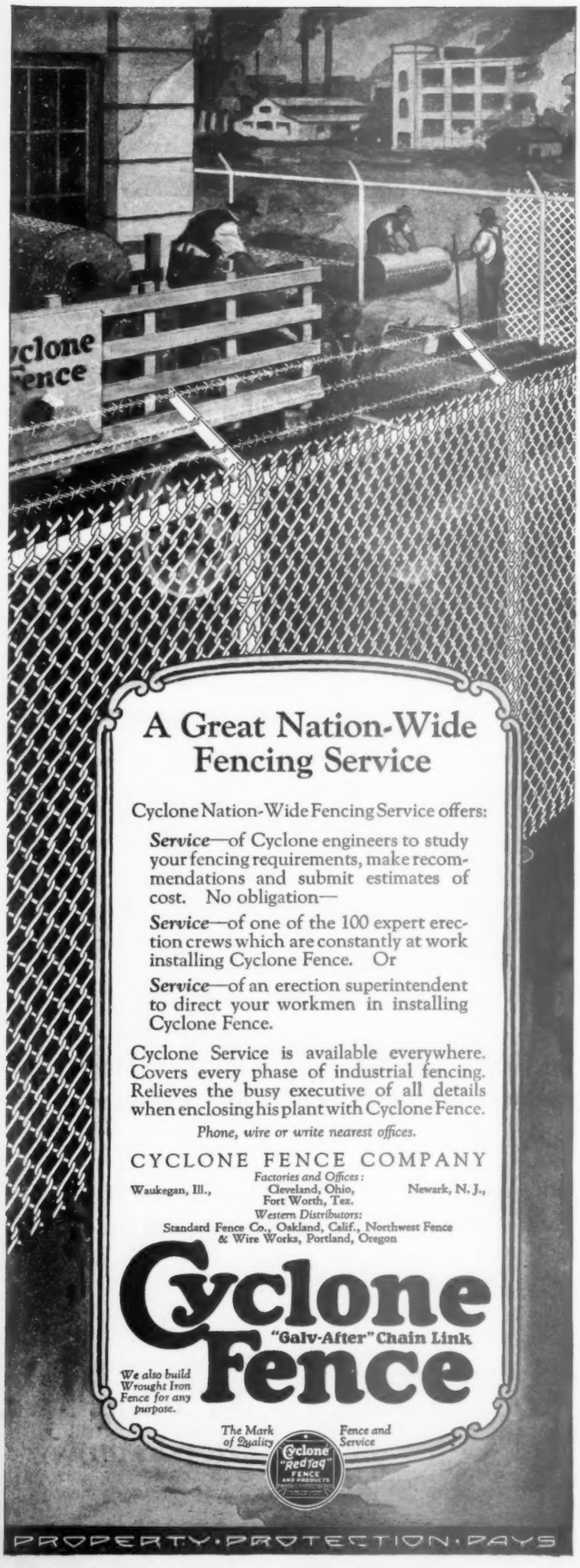
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AMERICA'S INTEREST IN OIL ABROAD

(Continued from Page 123)

those fields were being operated by individuals.

In time, however, the excess amount of foreign production over foreign consumption could be made whatever the commercial conditions warranted:

American Interest Abroad

The proportion of this surplus in American hands is not sufficient to assure us of a continuing supply. At the present time there is no surplus of foreign production over foreign requirements. The amount of commercial production in foreign fields which is today in American hands, is approximately one-half of the total foreign production and represents something less than 30 per cent of the present American production. The questions of present proven production and potential future production are fundamentally different. The point of potential future production is discussed under the next question.

The amount of the foreign oil production which would be available for American needs in time of peace depends on the trade movements of petroleum, and the direction of such movements is governed primarily not by nationality, but by the geographic position of the deposits in relation to other deposits, the position of existing refineries and price. Mexican oil will, for the most part, come to the United States because of geographic proximity, and a sufficient increase in price would divert to the United States an appreciable part of the 20 per cent of Mexican production which is not in American hands. The standing of America in foreign production at the present time is due primarily to American owned production in Mexico. Because of the proximity of the Mexican fields this is peculiarly a region where, for the conservation of America's home supplies and for the safeguarding of America' future needs, any far-seeing policy on the part of the American Government would have required, and still requires, the heartiest encouragement and protection of American citizens engaged in petroleum enterprises.

Foreign Owned Resources

It is impossible to state the percentage of the potential oil resources of the world outside of the United States which are in American hands, but on the basis of the area of the sedimentary rock controlled by Americans as compared with the total, it is very small and woefully small as compared with our future needs.

Since the greater the foreign production under commercial conditions the less will be the drain on our own resources, it follows that one of the simplest and most effective ways of prolonging the life of the oil resources of the United States is to intensify the production of oil on a commercial basis in other parts of the world.

The advantages sought by the United States in foreign oil development are therefore considered to include:

The conservation of the oil resources of the United States, and by this is meant the prolongation of their useful life.

The establishment of sources of supply abroad which will be available to meet our own needs when our home requirements exceed our production.

The citizens of the United States are best qualified to speed up such foreign development by virtue of the special knowledge and experience gained at home and by virtue of capital resources, and it is important that no steps be neglected which will have the effect of pressing such work forward, of protecting and encouraging it in every way, and of affording the necessary opportunities. Some of these steps do not require new laws; others require action by Congress.

State Department Can Aid

Under existing laws more could be accomplished toward the conservation of the oil resources of the United States by our own State Department than by any other branch of the Government. This department already has the power, and when it has failed in the past to encourage and protect Americans in foreign oil development the failure has been due, in most cases, not to any limitation arising out of our laws or constitution, but to limitations that have been self-imposed. There appears to be no legal reason why the American State Department should not afford to citizens of this country encouragement, assistance and protection equal to that given to nationals of any other country by the corresponding department of their Government.

The American oil men have shown wonderful and commendable courage and initiative in going into foreign oil work and the more encouragement and help that is afforded them the more they can accomplish. Naturally an alert, sympathetic, energetic State Department would be most helpful "in determining the position to the advantage of the United States."

Small Plot System

It would also be of grent value in this connection for the United States to show in a legislative way that it has at last realized from its own extremely wasteful and extravagant experience that its handling of the petroleum resources of this country has not been the wisest in the world. The largest single factor in the waste of our petroleum resources has been the small plot system, and so far as oil has been or is produced from public or Indian lands, the responsibility for this part of the waste rests with our own Congress and Government. The principle that the country should be cut up into small units was established at an early date in the Homestead Acts, where it was useful and advantageous, but this principle was not economically applicable in coal and oil, to which it was later extended. In coal lands, the result was not so serious, although the small units and the impossibility of making Congress appreciate the economics of the situation and thereby of securing proper legislation did prove an incentive to the evasion which in the opinion of many was necessary under these circumstances to make an unworkable law workable. In oil, because of its liquid character and consequent ability to pass from beneath one property to another, the small plot system was and is an economic calamity. It forced waste of one of the country's important resources. The system established by our petroleum legislation has been and is the very antithesis of conservation, and by conservation of the oil deposits of the United States is meant the prolongation of their useful life. The most effective conservation measure would be to establish the principle of granting leases covering in each case the whole of a geologic structure whatever its size. The monopoly bugaboo in oil production has long since been exploded—the granting of leases of geologic structure size could not create monopoly.

Our small plot system has also acted as a deterrent to the obtaining of petroleum concessions on commercial lines in other countries. The statesmen of many countries, without knowledge of petroleum matters, have naturally felt that since the United States was the largest petroleum producer in the world, and so was possessed of the greatest experience, the practice shown by the laws and administration acts of the Government must be the last word on what was wise and best.

Favor Large Areas

It would assist in the conservation of the oil resources of the United States, both by preventing waste at home and assisting in the negotiation of sound petroleum concessions abroad, if even at this late day, the small plot system of our present leasing acts and our administration in Indian lands was abolished, and the disposal of petroleum leases placed unrestrictedly in the hands of some special board having a will and a backbone sufficient to carry out the real conservation which is possible under such a plan. It would even be wise, both for the good of our own country and as a further object lesson to other countries, to grant exploration rights to petroleum on large areas in Alaska with provision for serious work and the requirement that after a period of exploration the rights under the lease would be restricted to a frac-

(Continued on Page 130)

THERE are few in the oil business able to tell you how long Reading Genuine Wrought Iron Pipe will last. But they *can* show you Reading Casing and Line Pipe that is still giving perfect service though laid by men who have since gone to their graves.

And Reading Genuine Wrought Iron is made today with the same painstaking thoroughness as in 1848!

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READING PIPE
GENUINE WROUGHT IRON

Should Women Bob Their Hair?

NYE—the Die Man
Pipe tool maker to the American Plumber and Steamfitter

Someone wrote to the fashion editor and asked if shorter skirts for women make women look shorter. He replied, "we don't know what it does to the women, but it makes the men look longer."

I met a man the other day who believes all women should bob their hair. He had me just about convinced. And then I found out he was a barber.

As far as we are concerned, if women want to bob their hair that is their business, but if you want pipe threading or cutting tools—that is our business.

If a woman bobs her hair it makes her look younger. Nye dies don't make a man look younger. They do better than that—they make a man *feel* younger. And they make him live longer—and act better.

The Nye die with its skip tooth feature,—and the Nye knurled knife blade cutter wheels—work smoother and faster than any other similar tools.

Nye thin blade cutter wheel made to fit all standard makes of pipe cutters, and guaranteed against breakage in use. Made both in smooth and knurled edge.

With the fine tool steel of which they are made they last longer than any other. And so does the man who uses them.

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Los Angeles—Union Bank Bldg.

EASTERN FIELDS

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completed for a second test on the Henry Vetter farm.

In Springhill Township, Greene County, Pennsylvania, the Peoples Natural Gas Co.'s second test on the F. S. Seliers farm is a very light pumper in the Bayard sand. In Richhill Township, Adrien & McCracken have a Gordon sand gasser at a test on the I. E. McCracken farm. In the same township, the Natural Gas Co. of West Virginia has a gasser in the same formation at a test on the M. C. Jones farm.

In Marshall Township, Allegheny County, Robinson & Co. have a very light pumper at a second test on the William Miller farm. In the same township, S. Steele and others have a gasser at a test on the S. Steele farm. In Franklin Township, Harbison & Co. are due in the sand at a test on the Reed McCray farm. In Ross Township, John C. Nock has the rig completed for a second test on the B. Wolf farm.

In the old Duff City Field, Allegheny County, Schuck & Co.'s second test on the A. Sickles farm is a light pumper in the 30-foot sand. On Patterson Creek, Morris Township, Greene County, the Carnegie Nnatural Gas Co. has a 5-bbl. pumper in the Ninevah 30-foot sand at a test on the C. Stewart farm.

New Work Under Way and Starting

In Morris Township the City & Suburban Gas Co. started to drill on the Alfred Rutan farm. The same company has a rig up on the William Workman farm. In Center Township, the Manufacturers Light and Heat Co. is down 3,007 feet and shut down for orders on the C. W. Johnson farm. The same company has a rig up on the Jesse Morrie farm. In Morris Township, the Natural Gas Co. of West Virginia has a rig up on the T. F. Rutan farm. In Springhill Township, the Rerods Run Oil & Gas Co. has started to drill a second test on the John Darling farm. The Cunmar Oil & Gas Co. is drilling its second test on the Anna E. Carpenter farm to the lower sands. On Patterson Creek, Morris Township, the Carnegie Natural Gas Co. has a 5-bbl. pumper in the Nineveh 30-foot sand on the Cale Stewart farm.

LUBRICANTS IN DEMAND IN EGYPTIAN MARKET

Egypt is an important and growing market for lubricating oils of a wide range of types and qualities. According to official returns, during 1924 there were imported 11,806 metric tons of mineral lubricating oils and greases, representing an increase of about 20 per cent in quantity and almost 30 per cent in value. The quantity increase, while greater than that of 1923 over 1922, was not unexpected, considering Egypt's continued expansion in imports of automotive vehicles, tractors and machinery and engines of all kinds.

By far the largest share of Egypt's imports of lubricating oils and greases comes from the United States—in 1924 slightly more than three-fourths of the total quantity and almost three-fourths of the total value.

The principal purchaser of lubricating oils is the Egyptian Government, whose administrations, it is estimated, require 25 per cent of the total Egyptian consumption. The Egyptian State Railways take the largest amount, principally for locomotive and allied lubrication. The next most important Government consumer is the mechanical department of the Ministry of Public Works, which supplies lubricants to the Government pumping stations throughout the country. There is also an appreciable demand, particularly for motor oils, from the mechanical transport administration, and for marine oils for the ports, lighthouses, and other marine administrations.

Among Alexandrian importers and wholesale merchants there is a large business in the mixing of lubricating oils for distribution to the retail trade and for consumption throughout Egypt. It is a common practice for importers, especially of Greek nationality, to prepare their own mixtures of heavy green cylinder oils and red engine oils for sale in the local markets as motor oils in competition with the brand motor oils dealt in on the Egyptian market by the regular representatives of large American and British refiners and shippers. Some of these local importers also mix in a similar fashion large quantities of Diesel engine oils, which are sold in large volume in the interior villages at prices which generally can not be reached by the more directly established distributing and sales organizations representing American and British refiners and shippers of branded Diesel engine oils.

Two American brands of motor oils and one British are marketed in tins. Branded oils in tins enjoy rather wide sale, and are generally well advertised. Motor oils in drums are sold in large volume.

SPENT HALF CENTURY IN SUPPLY BUSINESS

Elias Alexander Weart, general manager for the Jarecki Manufacturing Co., died recently at Pittsburgh, Pa., following a very serious operation. Had he lived until July, he would have celebrated his 53rd anniversary with the Jarecki Manufacturing Co. He was active up to his last illness and was the pioneer of the supply industry, at the time of his death being the oldest active man engaged in the business.

During his activities he was located at Pithole, Shamburg, Bradford, Foxburg and for the past 35 years lived and made his headquarters at Pittsburgh.

NEW JERSEY MAY BUY MARLAND LIMON OIL

Negotiations are under way for the sale by Marland Oil Co. to Standard Oil Co. of New Jersey of up to 10,000,000 bbls. of crude oil from Marland's Limon lease in Mexico, to be taken at the rate of 20,000 bbls. daily. Standard Oil is to lay 12 miles of 10-inch pipe line from its pump station at Cacalilao to the east end of the Limon property. Production to be covered by the contract represents the east end of the property, about 100,000 of the 279,350 acres. Price is based on New York bunker fuel market, less transportation. Marland has been working about five years to develop production on the Limon lease, which lies south of Doheny's Ebano property, a large part of the activity being in drilling diamond drill holes. It now has production of more than 10,000 bbls. daily, two wells recently completed having aggregate of better than 8,000-bbl. production.

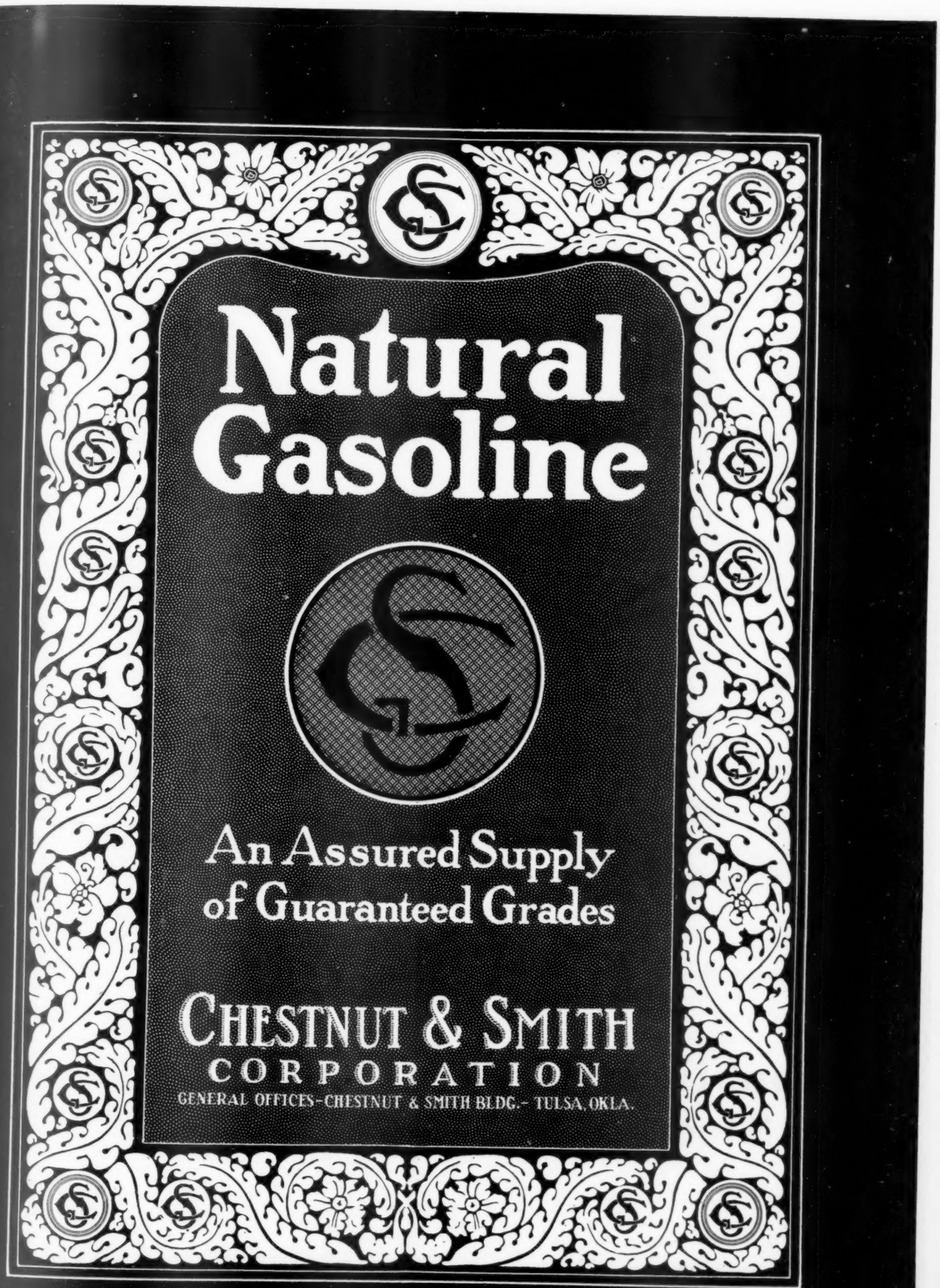
WANTS SUPERVISING DRILLER

The United States Civil Service Commission announces the following open competitive examination: Receipt of applications for supervising driller will close June 16. The examination is to fill a vacancy in the field service of the Bureau of Mines, Department of the Interior, and vacancies in positions requiring similar qualifications.

The entrance salary is $3,000 a year. Advancement in pay may be made without change in assignment up to $3,600 a year. Promotion to higher grades may be made in accordance with the civil service rules.

The duties of this position are to supervise drilling and production of oil and gas on Government lands and Indian lands, to conduct investigations and engineering studies concerning methods of drilling, production and conservation of oil and gas, to furnish advice and assistance in difficult drilling operations or difficulties due to high gas pressure, caving formations, wild or burning wells, etc., and where such action is necessary to take actual charge of drilling rigs to control the flow of oil, gas or water in the most satisfactory manner.

Competitors will not be required to report for examination at any place, but will be rated on their education, training and experience; and a thesis to be filed with the application.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AMERICA'S INTEREST IN OIL ABROAD

(Continued from Page 126)

tion of the original area large enough to cover whole geologic structures.

The writer knows that this view was presented to the late Secretary Franklin K. Lane in 1909. He was then Secretary of the Interior. Secretary Lane summed the matter up in somewhat the following words: "I agree entirely. However, I will not put such a plan forward and there is not a public man in Washington who will. Any public man who puts such a plan forward would be hounded out of public life."

One of the factors which has retarded and is retarding the development of foreign oil resources is the existence in some countries, notably much of the British Empire and France and French possessions, of an exclusion policy based on nationalistic feeling and a misguided patriotism which is not only injurious to the countries themselves, but to the world at large.

The suggestion is made that the best expedient to secure this result in the basis set forth in the Curtis Bill "To encourage reciprocity in trade relations" which was introduced on October 13, 1919, in the first session of the 66th Congress and referred to the Committee on Foreign Relations, where it rested, although it had the endorsement of the Secretaries of State and of the Interior. The same principle was incorporated in our oil leasing law, but served more as an irritant than a corrective opener of closed doors, because the petroleum in this country which lies in lands controlled by the Government is a very small fraction of the total.

Comment was made at this gathering of oil men that one of the striking facts of the development of the oil industry that whereas at first the tendency was to establish refineries at or near the point of production, the whole modern trend of the industry has been to establish refineries near the large centers of consumption or shipping, and to bring the crude to such refineries.

As this practice is the outgrowth of experience, one may reasonably expect it to continue, and whatever may be the future of the oil production in the United States refining of petroleum in the coastal region of the United States will be carried on on a large scale for a long period after the distant date when production in the United States has declined to a negligible amount. It is, however, important that such refineries actually control foreign crude, amounting in each case to a large percentage of their imput capacity.

Defining an Oil Reserve

The word "reserve" has grown to have in common usage two fundamentally different meanings, and this has led to much confusion, both in discussion and in conclusions, because there remains a strong tendency to unconsciously associate with the word whenever used, the element of exactness and certainty which it has when used in referring to the reserves of a bank or "bank reserves."

When one speaks of a person or nation having a reserve supply of wheat or cotton, it is clear that he means that the person or nation has actual wheat or cotton beyond current requirements, stored in some proper place and thus available on short notice. There is involved the elements that the thing has been produced, that it has been reduced to possession and that it is subject to an immediate or emergency call.

If, however, one speaks of a person or nation having a "wheat reserve," he could mean the exact equivalent of a "reserve supply of wheat" or he, quite as properly, could be referring to one or more areas of land which had been reserved for the purpose of producing wheat. A "wheat reserve" in the first sense had a tangible economic value; it can be counted on in proportion to its size to definitely meet an emergency; a "wheat reserve" in the second sense deals with the purpose rather than with the thing itself, and so relates, and not to an actuality, but to a possibility containing elements of time and uncertainty.

In short, one can definitely count on a reserve of the first class, because it is actually a reserve of the substance named, but cannot count with certainty on a reserve of the second class, because it is not actually a reserve of the substance named, but reserve of land.

There is still a third use of the word reserve illustrated by the phrase, "the petroleum reserves of the United States" which is equivalent of the petroleum remaining in the ground in this country. This cannot be estimated with even approximate accuracy.

It follows that such reserves in which the oil is, for the most part, stored in the ground cannot be established abroad and held without production, either by American or foreign commercial interest. Such work could only be carried out by a government with public funds within the limits of its own territory, and such a course would not only be economically unsound, but the measure of benefits which might accrue therefrom would be quite out of proportion to the expenditures involved. It would seem to be much better for the Government concerned to encourage companies and individuals to risk the money necessary to establish new fields and to rely on the fields thus established by private initiative and capital to supply the needs of the world.

For Unit Control

The practical solution of approximating such reserves abroad lies in concessions covering large areas. Under this plan large geologic structures are controlled by a single company and work can, under such circumstances, be carried forward without the necessity of production merely for the purpose of keeping the adjoining owner from getting an undue share of the oil. Production on such a case depends wholly on the commercial demand for petroleum. The unit control of geologic structures which is possible under large concessions, means the proving and development of oil deposits whose life depends on sound economic conditions and the elimination of one of the most important elements of waste. The most striking example of this is the Anglo-Persian oil concession in southern Persia. This is not a case of creating a reserve and then shutting in the production, but of carrying forward production according to commercial needs and thus having the necessary established production to meet an emergency. The long life of the development is assured by (1) the very size of the area, (2) the including therein of many promising structures and (3) its control by a single company. From a practical standpoint this is the effective kind of "reserve" which is possible abroad.

In the United States the laws and administrative acts with respect to petroleum in the public and Indian lands, has been a serious economic blunder, because of the evils growing out of small plot system, and it is perhaps, therefore, natural that our State Department has shown much opposition to large concessions abroad and has at times thrown its weight in the balance to prevent Americans from operating such concessions.

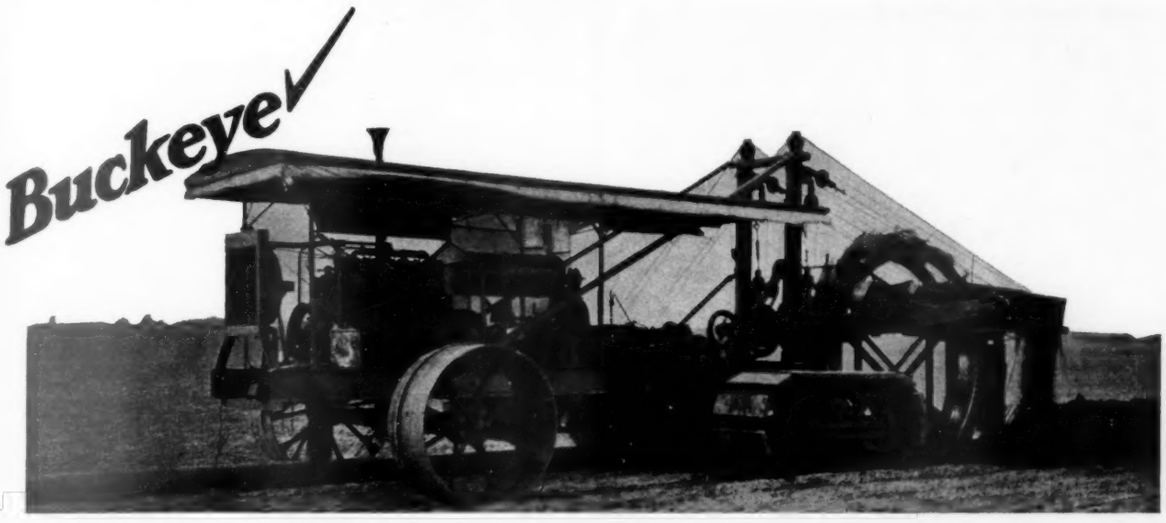
Finally the group of oil men interested in foreign oil development thought the ideal arrangement would be for American interests to unite in a special company the function of acquiring and prospecting petroleum concessions abroad with the provision that as areas are proven they be parcelled out among the several interests.

In the matter of cooperation it is a fact that foreign governments give greater support to their nationals than does our Government. Some of the handicaps of American producers abroad could be removed by more cooperation offered and exerted by the State Department.

FRENCH OIL PRODUCTION

WASHINGTON, D. C., May 11.—Production of mineral oils in France during 1924 totaled 61,014 tons, an increase of 4,000 tons over the 1923 output, according to the annual report just received here. The production in 1924, however, was less than that of 1922, which totalled 63,377 tons.

BUILDERS OF TRENCH EXCAVATORS FOR 30 YEARS



A Buckeye Promise Guarantees Performance

Promises are most dependable when based on *actual performance.*

That removes the temptation to exaggerate.

Facts are the basis of Buckeye promises—facts given by owners who have used Buckeyes for years.

When we say a Buckeye will handle heavy soils or cut through tangles of wiry roots, *it will do it.*

And when we estimate the digging speed for a pipe-line you are about to build, *that's the speed you can count on.*

Buckeye ingenuity, plus thirty years' experience, insures continuous, profitable performance.

Ask *any* owner.

Average Performance Is What *Counts*

Speed records have been made with Buckeyes, but it's average performance that counts.

On a 30-mile pipe line, with trench 27 inches deep and 24 inches wide, W. E. Kimrey Construction Co. averaged 3,600 to 4,000 feet each 9½-hour day.

Seventy-two miles in 30 days is a record made by the Illinois Pipe Line Co. from Elk Basin, Wyoming, to Billings, Montana. That *average* daily performance has never been equalled, so far as we know.

The Humble Pipe Line Co. *averaged* $15.25 for 1,400 feet of trench 18 inches wide, 28 inches deep and 21 miles long. In 18 days the job was completed.

The *average* performance of Buckeyes owned by the Hope Engineering & Supply Co. is a story in itself.

Write for the new booklet, "Pipe Line Construction Records." It shows why Buckeyes are favored by oil men "who know"

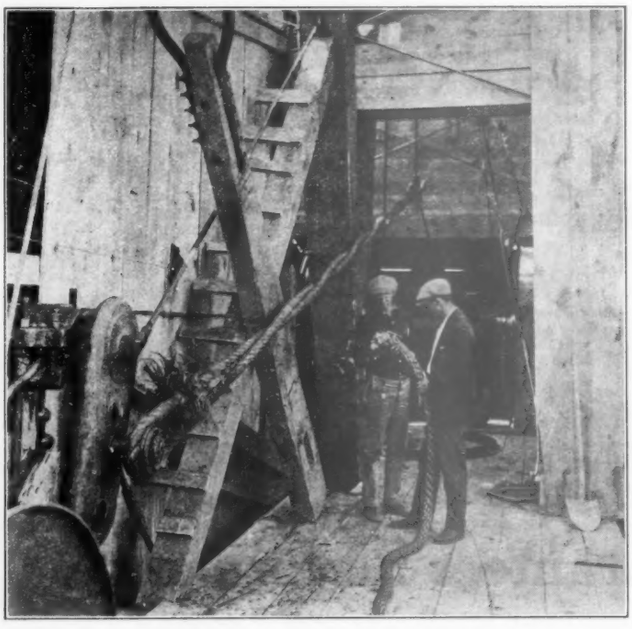
THE BUCKEYE TRACTION DITCHER COMPANY, Findlay, Ohio

Manufacturers of Pipe-Line Trench Excavators and Pipe Screwing Machines

There's a Buckeye Sales and Service Office Near You

Buckeye

"Yes, It's Columbian"



"I could almost tell by the way she was drilling, that it was Columbian Cable and now that the hole has been made and we've struck pay, let's look it over to be sure."

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MEXICAN FIELDS

(Continued from Page 34)

of say 253,000 bbls. for the northern fields and 114,000 bbls. for the southern fields. Mexican Petroleum Co., at Ebano, and its sister subsidiary, Huasteca Petroleum Co., in the southern fields, are the only companies that have completed reserve production for which transport is available if the oil was required. Production for April, when compared with January, is say a little under 500,000 bbls. off.

Cacalilao

In the Cacalilao sector of the northern fields, drilling operations as the week ended follow: La Corona Petroleum Co., in Lot 4: No. 152 is in the San Felipe at 1,720 feet; No. 171 has cemented 8-inch in the same formation at 1,230 feet; No. 169 is in lime at 2,135 feet, and No. 173 in shale at 900 feet. International Petroleum Co., in Lot 5: No. 166 is in gray lime with a showing of oil at 1,820 feet; Nos. 173 and 174 are in the same formation at 1,420 and 1,925 feet respectively; No. 175 is running 6-inch in the San Felipe at 1,217 feet; No. 177 is in the same formation at 1,695 feet; No. 178 cemented 6-inch at 1,207 feet; Nos. 182 and 183 are in gray shale at 280 and 789 feet respectively; No. 187 cemented 6-inch at 1,210 feet. and No. 189 is in gray shale at 290 feet. Mexican Sinclair Petroleum Corp.'s No. 54, Lot 2, is in the San Felipe at 1,250 feet; No. 64, Lot 3, drilling by lost tools at 2,010 feet; No. 106, Lot 3, cemented 8-inch at 1,225 feet, and No. 116, Lot 1, is in shale at 735 feet. New England Fuel Oil Co.'s No. 1, Lot 3, is drilling around 1,200 feet in hard gray shale. Transcontinental Petroleum Co.'s operations in Lot 4: No. 130 is in gray lime at 1,675 feet; No. 158 in lime at 1,955 feet; Nos. 165 and 176 in the same formation at 2,250 and 1,900 feet respectively; No. 180, in shale at 325 feet; No. 187, cemented 10-inch in the San Felipe at 1,325 feet; No. 192 is in shale at 600 feet. In the Paciencia, just north of Cacalilao, Transcontinental's No. 30 is in lime at 1,810 feet.

Panuco

In the older sectors of the Panuco Pool, operations are best reflected by the following: La Corona Petroleum Co.'s No. 97 Salvasuchi is in gray lime at 1,350 feet. Credito Petrolero, S. A., No. 2 Piedras is spudding. East Coast Oil Co.'s No. 28 Laguna de la Milpa is in gray lime at 1,730 feet, and No. 29 has made fast time, being in gray shale at 1,280 feet, in less than one week. Mexican Gulf Oil Co.'s No. 16 Lopez is cementing 8-inch at 1,207 feet in hard gray lime; No. 9 Cruz is in the same formation at 2,000 feet, and No. 2 Esterillos is in hard shale at 1,014 feet. National Oil Co.'s Nos. 17 and 18 Chijoles are in gray shale at 1,110 and 1,275 feet respectively. Schlaet & Co.'s No. 2-A Vega de Otate is in gray lime at 1,760 feet. Tampascos Oil Co.'s No. 4 Barragan is in gray lime at 1,125 feet. Thomas and others' No. 22, Lot 12 West Maguabes, is in gray shale at 275 feet. Transcontinental Petroleum Co.'s No. 20 Barbarena is in shale at 740 feet.

Corcovado

In the Corcovado sector of the northern fields, operations at the week-end follow: Cosmos Oil Co.'s operations in Lot G: No. 15 is in the San Felipe at 1,450 feet, with an oil show; No. 18 cemented 8-inch in shells at 1,185 feet; No. 20 is in gray lime at 2,025 feet; No. 28 has been blowing much dry gas from 1,445 feet, and the drill is in the San Felipe at 1,645 feet; No. 30 is in gray lime at 2,280 feet; No. 31 is swabbing an oil show at 2,100 feet where the drill stopped in a brown lime; No. 32 cemented 8-inch in shells at 1,405 feet; No. 50, the same at 1,200 feet; No. 51 is in the San Felipe at 1,225 feet, and Nos. 52 and 53 spudding. La Corona Petroleum Co.'s Nos. 9 and 10, Lot 6, cemented 8-inch at 1,045 in a shell, and 1,435 feet in the San Felipe, respectively; and in Lot 11, No. 6 is in the San Felipe at 1,525 feet, and No. 7 is underreaming to 1,300 feet to carry down 8-inch. Intermex Oil Co.'s No. 5, Lot 4-D, is going to cement 8-inch in the San Felipe at 1,912 feet. Leonard and others' No. 2-A, Lot 11 Corcovado, is in the San Felipe at 1,495 feet. Mexican Sinclair Petroleum Corp.'s No. 3, Lot 1, is in the San Felipe at 1,687 feet, Mexican Gulf Oil Co.'s operations in Lot 4: No. 17-A is in the San Felipe at 1,560 feet; No. 24 is in white and brown lime at 2,267 feet; No. 26 is in gray and brown lime at 1,650 feet; No. 30 cemented 8-inch in the San Felipe at 1,122 feet, and No. 35 spudding. Transcontinental Petroleum Co.'s No. 6, Lot 6, is in shale at 600 feet. Rich Mex Oil Co.'s No. 3-B, Lot 2, is shut down for a new boiler at 2,150 feet, San Felipe.

South Fields

In the south fields, Huasteca Petroleum Co.'s (Mexican Petroleum) No. 58 Cerro Azul is in gray shale at 2,050 feet, and Nos. 61, 63 and 64 are in the same formation at 580, 860 and 1,540 feet, respectively. In Tierra Blanca, Huasteca's No. 37 is in gray shale at 1,900 feet; No. 45, in blue lime at 2,035 feet, and No. 46 in shale at 70 feet. Over to the east in Chapopote Nunez, its No. 10 is a deep hole in gray shale at 2,435 feet. Up in Tres Hermanos its No. 7 is re-rigging rotary at 4,090 feet, gray shale, and No. 9 is in shale and sand at 2,618 feet. Over in Granadilla, its No. 1 is in gray shale at 4,690 feet. Mexican Eagle Oil Co.'s No. 24, Lot 132 Amatlan, is in brown lime at 5,114 feet; No. 20 Cerro Veijo is running 10-inch to 1,273 feet, where the drill stopped in basalt; No. 16 San Geronimo cemented 8-inch in hard shale at 1,930 feet. Well south of the Tuxpan River, its No. 2 Mecapepac is in hard sand stone at 3,245 feet, and No. 1, Lot 2, Escabol, is testing cemented 12½-inch at 1,521 feet. Cortez Oil Corp.'s No. 116, Lot 199 Amatlan, is drilling in shale at 710 feet. Mexican Gulf Oil Co.'s No. 10, Lot 163 Chinampa, is in gumbo at 180 feet. Transcontinental Petroleum Co.'s No. 3, Lot 198 Amatlan, cemented 8-inch in hard gray shale at 1,805 feet. Penn Mex Fuel Co.'s No. 1 Paso Real is in gray shale at 1,430 feet.

Northern Miscellany

In northern fields the scattered tests are epitomized as follows: In the Topila sector, La Corona Petroleum Co.'s No. 19 is in hard gray shale at 2,004 feet. East Coast Oil Co.'s No. 2, Lot 4 Tamboyoche, is in gray shale at 700 feet. Mexican Oil Co.'s No. 5, Lot 19 Tamboyoche, is in green lime at 2,260 feet, gassing.

At Ebano, Mexican Petroleum Co.'s Chapaco is as follows: No. 10 is in Tampasopa at 2,230 feet; No. 20 cemented 10-inch in gray lime at 1,250 feet; No. 23 is in blue lime at 1,840 feet; Nos. 26, 30 and 31 are in blue shale at 1,153, 1,140 and 195 feet, respectively; No. 32 is ruuning 10-inch in shale and lime at 1,403 feet, and No. 35 is in shale and shell at 1,240 feet. In the Chijol, its No. 30 is fishing at 1,335 feet, shale and shell. National Lines, in its Chapacao right-of-way, is spudding No. 4; No. 8 is in the Tamasopa at 2,280 feet, and No. 10 cemented 8-inch in gray lime at 1,200 feet.

At Los Esteros, American International Fuel Co.'s No. 11 cemented 3-inch in gray lime at 3,385 feet; No. 17 is in shale and lime at 954 feet, and No. 18 is in gray shale at 630 feet.

In the Marland Field, Cia. Petrolera Franco Espanola, No. 27 Limon is in hard shale at 760 feet; No. 28 is rigging, and No. 29 is a derrick.

CALIFORNIA

(Continued from Page 42)

heavy oil since operations were started a short time ago.

Beverly Hills

The Associated's big well, No. 101 Fox, in the Beverly Hills area of the old Salt Lake Field, sanded up early in the week after flowing at the rate of 1,250 bbls. for several days following completion. It is believed the company will be successful in returning it to production good for at least 500 bbls. a day after cleaning out the hole, as it is claimed it was not beaned down enough and merely sanded

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up. The company has just passed the 2,160-foot level in No. 1 Hellman at Seal Beach and is making excellent headway. The first favorable indication noted was a good gas showing and a few rainbows at 2,000 feet. The Shell is still trying to clean out No. 2 Bryant, following the gas blowout several months ago at 4,409 feet. No. 3, at 4,520 feet, is rapidly nearing completion depth and expected to make a better showing than No. 1, the discovery well, which is flowing 50 bbls. of oil and 2,000 bbls. of water.

Rosecrans

The Barnsdall was the only operator to secure clean production at Rosecrans during the week. This company's No. 5 Rosecrans was good for 300 bbls. of clean 39.2 gravity oil from 3,946 feet. The well is flowing under a pressure of 400 pounds and the company will undoubtedly allow it to remain on production until the output shows a substatial decrease, at which time it will probably be deepened. The Barnsdall has four producers on the Rosecrans lease yielding approximately 850 bbls. a day, and one hole being deepened, No. 3, which is going ahead at 4,020 feet. On the O'Dea lease, the company has two producers making about 2,000 bbls. a day, one rig, one driller, No. 5, at 3,125 feet, and one work-over, No. 1, which is in the oil sand at 4,842 feet. The Julian Petroleum started the ball rolling during the early part of the week by bringing in two producers on the Athens property, Nos. 2 and 3, but they were both wet and the company was obliged to kill the flow and resume work. No. 2 was swabbed in flowing 300 bbls. of fluid from 4,378 feet, accompanied by approximately 1,000,000 feet of gas. The cut in this case was 45 per cent mud, sand and water. No. 3 was swabbed in from 4,312 feet and tanked 2,000 bbls. of fluid in 12 hours. An examination of the output revealed that the production was 70 per cent salt water. It is believed the company will be successful in effecting a shutoff and an early recompletion is anticipated.

The outcome of R. W. Perkins' well is still in doubt, as it is, at last reports, flowing gas and mud through a ½-inch bean under a pressure of 750 pounds, there being very little oil present. It is almost sure to clean up, however, and a 1,000-bbl. flow would not be surprising. No. 1 Kreitz, of the Petroleum Midway, cleaned up somewhat and is now yielding 200 bbls. of trapped oil, which tests 36.7 degrees and shows a cut of 2 per cent. No. 1 Fox is in a gray sand at 5,030 feet, while No. 1 Folsom is reaming at 5,377 feet. The company has suspended work on three drillers, No. 1 Baskin at 5,357 feet, No. 1 Ducommon at 5,177 feet and No. 1 McCormick at 4,954 feet. The Associated is making preparations to finish its last driller in this area after a long battle and hopes to have No. 2 Wanka on production within a short time. A core sample at 4,778 feet looked quite favorable. R. W. Fisher should also finish a producer in the near future, as his No. 9 looks unusually good at 4,478 feet. No. 10 picked up the pay at 4,360 feet and he should have this hole on production within a short time after No. 9 is completed.

No. 1-A Vaughn, of the General Petroleum Co., is in the oil sand at 4,728 feet and should increase the production of the field within a few weeks. The company had an unusual run of hard luck on this lease and lost the two first holes right in the oil sand at 4,700 feet. Water and mechanical trouble were responsible in each case. The Sentinel's No. 4 Athens looks good for at least 500 bbls., as it is exhibiting plenty of kick at 4,439 feet. None of the outposts showed any improvement during the past seven days. No. 1 Bilhorn, of the Chanslor-Canfield-Midway Oil Co., is drilling ahead in a sandy shale at 4,077 feet, while the Shell's No. 1 Leonis is in a gray sand at 5,081 feet. The Standard is abandoning No. 1 Cowan on the northeast front at 6,503 feet. Not even the slightest favorable indication was noted and this, together with pipe trouble at 4,500 feet, resulted in abandonment. The St. Helens has suspended work on No. 1 Rowel at 5,282 feet, following the failure of the Superior to secure production in No. 2 Maxwell, a deep test at 5,465 feet.

Ventura

The nearest thing to a completion at Ventura during the week was No. 7 Gosnell of the Shell, put on a production test at 4,821 feet. The initial output, 1,100 bbls., was very encouraging, but a test showed a little better than 50 per cent was water. The well is flowing under pressure of 450 pounds and it is the intention of the company to sit tight for a few days and watch for a change. The company has six other drillers on this property, No. 6 at 4,435 feet, No. 8 at 5,082 feet, No. 9 at 4,452 feet, No. 11 at 3,560 feet, No. 14 at 3,000 feet and No. 15 at 2,655 feet. On the Taylor lease, No. 8 is at 3,191 feet, while 667 feet of 18-inch stovepipe has been cemented in No. 9. No. 3 Edison is drilling ahead at 2,950 feet, while No. 4 is making hole at 2,300 feet. These wells are all in the Ventura Avenue Field, dominated by the Shell, Associated and General Petroleum. The Associated has three drillers on the Lloyd lease, one of which should be on production shortly, and two new derricks standing rigged up. No. 15 is at 2,003 feet, No. 17 in the oil sand at 4,880 feet and No. 18 drilling ahead at 4,375 feet. The prospective drillers are Nos. 21 and 22. The General Petroleum is running but one string of tools, the work being centered on No. 4-A Barnard, now at 2,865 feet.

E. J. Miley was not successful in securing production in No. 1 Casitas, his shallow Red Mountain well, which looked quite promising at 390 feet. Failure of the sands at this depth to yield oil resulted in a resumption of drilling and the bit is going ahead at 462 feet. No. 1 Snyder of the Union Oil Co., on South Mountain, is drilling ahead in a brown shale at 3,180 feet.

Southern California Wildcats

The Winwell Oil Co. did not secure a water shutoff in No. 1 Dome at Hawthorne and another cement job will be necessary at 5,586 feet. The Manhattan Pacific's Hermosa wildcat is still standing cemented at 4,166 feet and no information is available when work will be resumed. The Calney Oil Co. secured a small showing of gas and a few rainbows in its Irvine test at 3,107 feet, but drilling is going right ahead. No. 1 Stubbs of the Shell at La Mirada has just passed the 4,000-foot level, a core sample showing the formation to be a brown shale. The Magnolia Petroleum, at Maywood, found a small showing at 3,775 feet and it is understood the company is contemplating landing a string of casing. No. 1 Newhall, of the Associated, at Saugus, looks like a dry hole at 4,720 feet and, although the Union's No. 1 Saugus is just getting under way at 2,200 feet, it has not looked any too encouraging to date. No. 1 Newlin, the Union's wildcat at Ocean Park, is in an extremely hard formation at 4,400 feet. Scouts have already hung the crepe on this wildcat. Hoyt Gail has just spudded in No. 1 Irvine at Paulerino and the bit is going ahead at 610 feet. No. 1 Crest of the Pan American at Palms is down 706 feet, having been spudded in during the early part of the week. This looks like a fairly favorable location. The Standard reports 3,100 feet of hole in No. 1 Hadley at Rivera but makes no mention of any showings found to date.

Northern California Wildcats

The Standard chalked up another abandonment at San Emidio and sacrificed 5,660 feet of hole in order to test out the area thoroughly. The company's first hole was a comparatively shallow one, only 2,254 feet of hole being drilled before suspension orders were issued and abandonment notice filed. The Chanslor-Canfield-Midway Oil Co. is still held up at Delano because of mechanical trouble which developed at 3,743 feet and does not seem to be making much headway. This hole has not shown a thing to date, but this is not particularly discouraging as the well is not deep enough to be considered a satisfactory test. The Standard is making fairly good progress with its two holes on the McKittrick front, No. 1 being down 1,506 feet and No. 2, 1,630 feet. The St. Helens has just passed the 4,800-foot level on the Kern River Bluffs, south of Bakersfield, and, although nothing of vital importance has been noted, drilling will continue, at least until the hole has reached 5,000 feet. The Pan American is rigging up on Section 23-28-27, but has not yet spudded in. The Standard is rigging up for two tests, one on Section 15-28-27 and another on Section 21-28-27.

Nothing further has been done at Wasco by the Main Oil Co., since striking a small gasser and the company's future plans are still somewhat unsettled. Although the well has been capped, it was found necessary to open the connections partially because of the extreme gas pressure built up. It is not believed the Main will undertake to drill another test but will hold off in the hope something may develop in the near future. If the volume of gas continues, the company may be in a position to tie up with one of the gas companies and, on the other hand, if the output should drop, it is believed some additional work will be done on the hole. The Snowolene's test on Jacalitos Dome, Section 22-21-15, near Coalinga, is going ahead in a gray sand at 4,520 feet. Drilling during the past week was rather uneventful.

The Associated is just getting under way with its wildcat on Section 14-15-18, at Raisin City, near Fresno, and reports an even 1,000 feet of hole. The company, since taking over the Fresno United's first hole, has been engaged in a clean-out job, and as a result, no additional footage has been reported. This hole was taken over at 3,570 feet. The Fresno United's present wildcat, which drew attention to this area, is standing cemented at 5,357 feet with a prospect of an early test if conditions are favorable upon re-entering the hole. The General Petroleum is still held up in the Kettleman Hills on Section 28-22-18 with a fishing job, which developed at 6,407 feet. The crew is attempting to sidetrack some 3-inch drill pipe and is making good headway. The Marland has reached a depth of 5,165 feet on Section 12-22-17 but has yet to pick up the pay in this area. The General Petroleum has not yet spudded in No. 1 Pezzoni in Santa Barbara County but should do so shortly. E. J. Miley reports 1,645 feet of hole in No. 1 Smith, San Luis Obispo County, but makes no mention of any particularly encouraging showings. The Hub Oil Co. picked up a small showing of oil and gas in No. 1 Andrews in Tulare County at 1,081 feet but conditions did not warrant a test. The rig erected several months ago at Ducor has been moved a mile east of No. 1 Andrews and will in the future be known as No. 1 Halberg. The San Martinez has just passed 3,000 feet at Woodlands in Yolo County but the entire hole has been devoid of showings of any kind.

SOUTHWEST TEXAS FIELDS

(Continued from Page 34)

Lefevre & Storey's No. 1 Blackaller in Frio County, in which several major companies have taken offset acreage is rigging up. Dickinson and others' No. 1 Lyle in Frio is rigging up.

J. M. Davis' No. 1 Hoese in western Guadalupe is erecting a derrick.

Medina County

A. G. Kiefer has spudded in on Jacob Huff survey No. 12 south of the Ina shallow wells. Arnett Oil Co.'s No. 2 Nixon is taking a core at close to 900 feet. Carson & Smith are nearing completion of No. 1 Wilson near the Ina shallow wells.

Clarence Garrett has taken a core in No. 1 Houck in Wilson County at 1,410 feet in a gas sand and will test.

Miscellaneous

W. M. Wheless has been appointed zone agent at San Antonio for the Gulf Production Co., succeeding James W. Taylor, who was zone agent here for several years and has resigned.

L. M. Holden's wildcat test east of Hebbronville that pulled the casing in two with a showing at 2,626 feet, will endeavor to loosen the casing and reset.

Shipments of crude oil from the Caliham Field in McMullen County for April were 39 tank cars compared with 54 tank cars in April one year ago.

Amy Oil Co., south of Devine in Medina County, is resuming drilling at 2,300 feet.

Mirando Oil Field

Shipments of crude from the Mirando Field in Webb, Jim Hogg and Zapata counties for April reached 1,612 tank cars or about 386,880 bbls. for the month and exceeded the shipments for March, the next highest month by 420 tank cars. Production during April was between 9,000 and 10,000 bbls. daily against an average shipments of 12,896 bbls. daily in March. The difference represents largely the storage of the Magnolia in its tank farm at Mirando City, which was being drawn on during the month.

Production figures for the field show a total of 25,950 bbls. coming from the Jim Hogg County Pool for the week ending May 2, 36,100 bbls. coming from the Mirando pools in Webb County and 1,000 bbls. from the old Mirando Valley discovery pool in northern Zapata County, making a total of 63,050 bbls. for the week or 9,007 bbls. daily average.

By companies the production of the Jim Hogg Pool, the most recently discovered pool in the field, is as follows:

Jim Hogg County:		
Plateau Oil Co.	3,000	
Texas Pacific C. & O.	5,000	
Witherspoon	500	
Magnolia	900	
Big Bend Oil Co.	7,500	
O. W. Killam	2,500	
Kitselman & St. Albans	6,500	
Texo Oil Co.	300	25,100
Webb County:		
Carnahan	1,500	
Associated	1,250	
Wheatley	7,000	
Magnolia	5,000	
Richmond Garcia	1,500	
Cin-Tex	1,850	
Miscellaneous companies	18,000	34,100
Zapata County	1,000	1,000
Total of Field		63,050

With the bringing in of the new No. 15 well of the Big Bend Oil Co. on Lot 13, 1 mile south of the Jim Hogg Pool and extending the pool that far, the production of that pool is expected to show considerable increase soon. The well doubles the area of the pool. At last accounts with a 1-inch choker it was making 800 bbls. a day and putting it through a 2-inch water line a distance of 1 mile to pipe line connection at the main pool. Other wells in the main pool came in for production of about the same amount originally and the 25,950 bbls. weekly from that pool is now being made by 40 wells or an average of a little less than 100 bbls. daily from each well. The discovery well of the main pool was brought in on October 24, 1924, and the drilling up of the main pool was finished practically about three weeks ago.

Plateau Oil Co. and Al Buchanan are drilling on block 10 midway between Big Bend's new well and the nearest production in the main pool.

Other drilling in Jim Hogg County is as follows: Johnson & DeTray's No. 1 Vela, coring at 2,260 feet; O. W. Killam's No. 1 Vela, derrick on Block 1, survey 580; Magnolia's No. 4 Thompson, a deep test in the Henne, Winch & Farias or Jim Hogg County Pool, abandoned at 2,365 feet; Plateau's No. 5 Martinez, spudding in on Block 18, survey 256; Pippin & O'Byrne's No. 2 Palacious, setting 6⅝-inch at 1,065 feet to test gas showing; Rydal Oil Co.-Rycade Oil Corp.'s No. 1 Allen drilling at 1,540 feet in sticky shale. Texo Oil Co.'s No. 3 Lopez, coring a sand at 2,894 feet. Weber Oil Co.'s No. 4 Holbein, shut down at 3,486 feet.

Killam is setting up No. 3 and No. 4 Benavides in Duval County near the Cole gassers and the gasser he recently completed.

In Webb County two tests have been abandoned the past week. Allen-Chenault's No. 1 Gates was abandoned at 1,800 feet in what is known as the Leaseholders Field considerably north of the Mirando pools and Quigg and others' No. 1 Yeager was abandoned at 2,050 feet.

Around the Cole gassers in eastern Webb and western Duval in addition to the two Killam wells that are setting up the Calumet Petroleum Co.'s No. 1 Benavides is in gummy shale at 500 feet; National Oil & Refining Co.'s No. 1 Benavides on survey 701½, which recently finished a fishing job at 3,200, is

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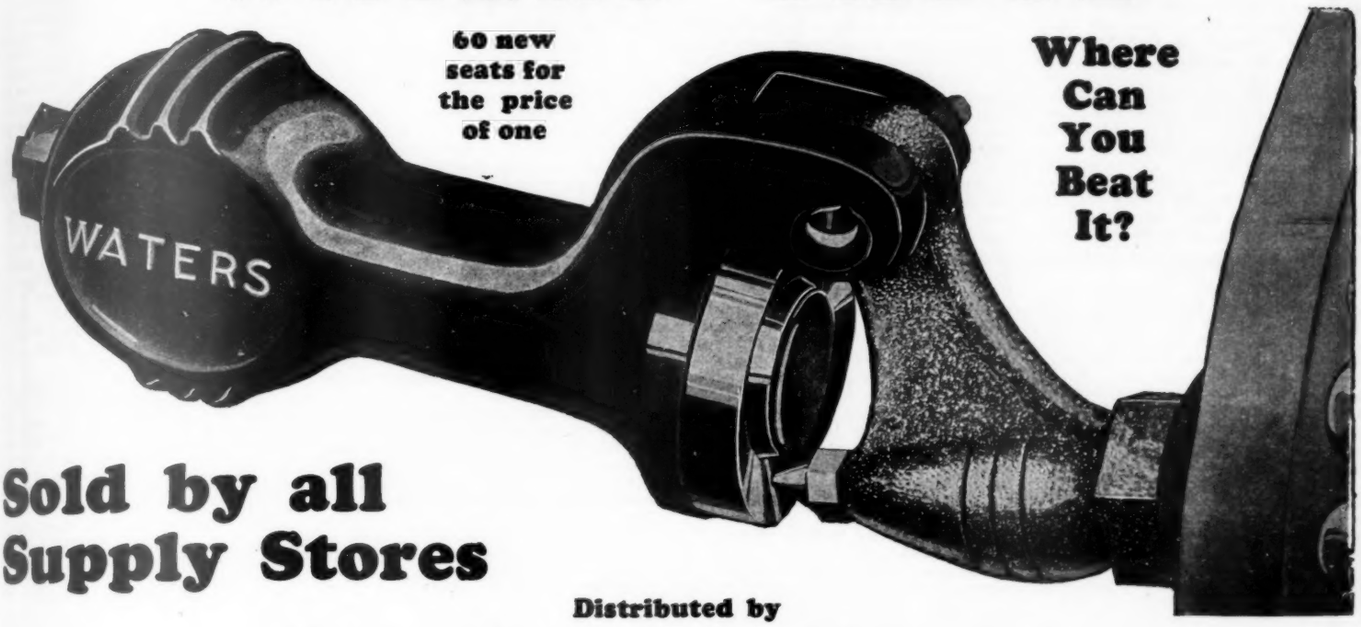

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shut down by litigation with the drilling contractor.

Marts and others' test near the old Reiser gas field in No. 1 Reiser is shut down for repairs at 1,450 feet.

Near the Carolina-Texas gas field Snodgrass' (San-Tex Oil Co.) No. 1 de la Garza is in hard sandy shale at 1,875 feet.

In and about the proven pools Binney's No. 1 Garcia is standing at 1,875 feet. Ball and others' No. 1 Puig is spudding in; Cornhuskers Oil Co.'s No. 5 Garcia, set casing at 1,681 feet and is bailing; same company's No. 6 Garcia is setting up; Carnahan's No. 60 Garcia, set casing at 1,691 feet; Rydal Oil Co. completed No. 10 Puig, good for 50 bbls. Cin-Tex's No. 8 Garcia, pumping 90 bbls.

Bexar County

Good Oil Co.'s No. 3 Cantu, on acreage blocked by the Dixie Oil Co., looks like a well at 1,400 feet. It is in eastern Bexar County 1 mile south of Adkins and 15 miles east of San Antonio. No. 1 Cantu, drilled last year, had a showing that covered the slushpit at 1,400 feet, but drilled to the Edwards lime in hope of bigger production and got a dry hole. It was abandoned and the rig skidded 50 feet north and drilled through a fault plane and got an entirely different log and a dry hole. No. 3 started recently was located in the opposite direction and came in with a good showing. It will be completed and tested out.

Ballard & Underwood's No. 1 Eastwood in Somerset, an Edwards lime deep test at 2,250 feet, is losing the returns in a cavity. It has not yet reached the Edwards.

Guadalupe County

York Creek Oil Co., north of the Luling Field, in Guadalupe County, on the Fulshur tract, with a showing of oil at 2,050 feet used a small shot of nitroglycerin. Results are not tested out. They seem to have a little well 1½ miles north of the Guadalupe County end of the Luling Field, but whether it will prove of commercial importance and open a new pool is still unproven.

Dedert & Armsted's No. 4, a river bed well in the Luling Field, is a producer and was brought in the past week, good probably for 100 bbls.

Kleberg County

Humble Oil & Refining Co. has lost No. 1 King, on the King Ranch, near Kingsville, and is moving to the No. 2 Cross States Land. No. 2 Cross States Land is about 250 feet from No. 1 King. Humble's No. 2 Flato is drilling at 4,700 feet and its No. 1 Cross States Land is drilling at 4,100 feet.

Houston Oil Co.

Houston Oil Co. has transferred to the Houston Pipe Line Co. the gas covered by its leases to 89,000 acres of land in four counties. The Houston Pipe Line Co. was recently organized by the Houston Oil Co. The transfer of the leases covering the gas has been filed in the county seat of each county. In Live Oak County there are 28,591 acres, Bee County County 15,742, Goliad 33,111 and Jackson County 12,027.65.

Also the right-of-way for the pipe line for which contract has been recently let to Allen Macpherson of Fort Worth has been transferred by Houston Oil Co. to Houston Pipe Line Co. The pipe line extends from Live Oak County through Bee, Goliad, Victoria, Jackson, Wharton, Matagorda, Brazoria, Fort Bend, Harris and Galveston.

High Gravity Well in Webb

Ross Segundo Oil Co.'s No. 3 well in the Mirando Field in Webb County on Survey 2,253, which has been producing for a year from the 1,600-foot horizon has been drilled to 1,949 feet and is reported to be a good well of high gravity oil making probably 50 bbls. or more. Magnolia and others completed wells to the high gravity oil at about that depth several months ago but the drilling to the second sand has not been very general and for the most part the wells are not as prolific producers as from the first sand though the oil is of higher gravity.

Drilling in Gas Belt

In the gas belt north from Corpus Christi through San Patricio, Refugio, Bee and Goliad Counties, the drilling is considerably increased lately, efforts being under way to develop the gas area in anticipation of the proposed pipe lines of the Seagraves & Moody people and the Houston Oil Co.

Pratt-Hewitt, Nebraska people, who were the discoverers of the gas area about Refugio and Woodsboro in Refugio County, are setting 6½-inch casing at 4,625 feet in No. 2 Heard, the deepest test in that territory. They are understood to be linked up with the Seagraves & Moody interests. Seagraves & Moody are setting casing in No. 1 Shelly at 2,350 feet. It is northwest of the town of Refugio.

Thirty-five miles south in the old White Point area, where there were a number of big gas blowouts more than 10 years ago, Segraaves & Moody are drilling No. 1 Hunter at 3,600 feet. It is about 1 mile from one of the old White Point craters.

George E. Smith's No. 1 Heard, near Refugio, is preparing to resume at 130 feet.

H. H. Givens has erected a derrick 1 mile southeast of Calallen, which is up the Nueces River a short distance from Corpus Christi. In Bee County, the Dixie Oil Co. has a derrick up on the R. Pryor Lucas farm, near the Goliad County line. The location is northeast of Beeville. W. G. Clark, of Dallas, in No. 1 Scott, northeast of Beeville, is drilling at 2,050 feet.

Houston Oil Co. is drilling at 2,000 feet in its test in southern Goliad County.

N. LOUISIANA-ARKANSAS

(Continued from Page 46)

at 2,350 feet, A-3 at 2,050 feet and set 10-inch at 505 feet in A-4, same section. Crusader Oil Producing Co. is trying to shut off salt water by setting casing at 2,367 feet in No. 7 Graves, Section 3-16-15, and setting casing at 2,350 feet in No. 5 Lyell, same section.

Chal Daniels is trying to kill a salt water flow at 2,360 feet in No. 3 Tatum, Section 7-16-15; Eason and others, drilling at 2,353 feet in No. 1 Palmer, Section 9-16-15, tested dry at 2,500 feet and at 2,510 feet in No. 2 plugging back to test at 2,460, and down 50 feet in No. 5, same section, with No. 4 Murphy, Section 15-16-15, setting 10-inch at 370 feet. The Federal Petroleum Co. has three wells drilling on the Flenniken lease, Section 6-16-15, and six nearing completion on the Lawton, Section 10-16-15.

Gulf Refining Co. has started two new wells on the J. H. Alphin lease, Section 3-16-15, and Section 10-16-15; tested salt water at 2,417 feet in No. 1 J. A. Berry, Section 7-16-15; rigging up to drill No. 5 M. L. Cook, Section 16-16-15; drilling at 565 feet in No. 10 Flannigan, Section 5-16-15; has two wells nearly completed on the LeCroy lease, Section 16-16-15; and set 15½-inch at 52 feet in No. 5 LeCroy, Section 8-16-15; nine rigs running on the Hardy-Murphy lease, Sections 3 and 4-16-15, with derricks up for No. 26 in Section 4, and No. 27 in Section 5-16-15, and drilling at 2,165 feet in No. 7 T. C. Murphy, Section 9-16-15; set 10-inch at 297 feet in No. 10, and drilling at 2,445 feet in No. 12, same section.

Hickman and others, drilling at 2,185 feet in No. 1 Graves, and 1,760 feet in No. 11, Section 3-16-15; Higgins Oil & Refining Co., coring at 2,275 feet in No. 1 McGraw, Section 6-16-15; Houston Oil Co., drilling at 1,090 feet in No. 6 Miller, and at 1,350 feet in No. 7, Section 2-16-15, and Humble Oil & Refining Co. bailing casing in No. 4 Flenniken, Section 3-16-15; set casing at 2,420 feet in Flenniken B-5, Section 9-16-15; drilling at 2,220 feet in No. 3-B Goodwin, Section 3-16-15; derrick up for No. B-1 Lawton, Section 7-16-15, and drilling at 2,075 feet in No. 8 Pate, Section 10-16-15.

Imperial Oil & Gas Producing Co. set 10-inch at 500 feet in No. 5 and No. 7 Murphy, Section 9-16-15; Ab Jones has a fishing job at 1,980 feet in No. 1 Tatum, Section 7-16-15; E. M. Jones has two rigs running on the Cook lease, Section 16-16-15; Kinnebrew and others have derrick up for No. 6 Williams, Section 3-16-15; Laurel Oil & Gas Co. is reaming to bottom of hole, 2,478 feet in No. 1 Houston, Section 12-16-15. The Lion Oil & Refining Co. tested salt water in Lawton A-5, Section 10-16-15, and waiting orders at 2,375 feet; has derrick up for Lawton A-7 and drilling at 2,000 feet in B-3, same section; drilling at 2,100 feet in Murphy H-1, Section 9-16-15; has water flow at 900 feet in No. 2 Hardy-Murphy, and a fishing job at 900 feet in No. 3 same section.

Lyles and others set 6-inch at 2,33[illegible] feet in No. 8 fee, Section 3-16-15, and have derricks up for Nos. 9 and 10, same section. Magnolia Petroleum Co., coring at 2,370 feet in No. 2 Bradford, Section 8-16-15; rigging up to drill No. 1 J. N. Murphy, Section 35-16-15, drilling at 2,680 feet in No. 4 Powell, Section 19-16-15, and drilling at 600 feet in No. 1 Ola Scott, Section 12-16-17; No. 2 Stout Lumber Co., Section 1-16-17, is arranging to pump, and derrick is up for No. 3, same section.

Marr & Wood, drilling at 1,700 feet in No. 2 Murphy, Section 17-16-15; Mazda Oil Co. set 6-inch at 2,434 feet in Lawton R-2, Section 10-16-15; McCorkle and others, swabbing in 20 feet of broken sand at 2,507 feet in No. 1 Murphy, Section 8-16-15; R. J. McMurray, drilling at 2,300 feet in No. 1 Hill, Section 5-16-15; Moco Oil Corp., rigging up to drill No. 2 Flenniken, Section 5-16-15, and Murdock and others are casing at 2,410 feet in Bilyew B-1, and derrick up for B-2, Section 8-16-15.

O. G. Murphy set 6-inch at 2,450 feet in No. 4 Murphy, Section 9-16-15, down 50 feet in No. 5 and derrick up for No. 6, same section. Natural Gas & Petroleum Co. is trying to kill a salt water flow at 2,340 feet in No. 2 Bilyew, Section 9-16-15, and setting casing at 2,200 feet in No. 4, same section; drilling at 1,925 feet in Lawton C-2, Section 10-16-15; at 2,055 feet in Murphy A-3, Section 17-16-15; Murphy D-3, Section 8-16-15 blew in while coring, making 40,000,000 feet of gas at 2,556 feet and is closed in waiting orders; Oran B-2, Section 5-16-15, set 6-inch at 2,358 feet; No. 6 and No. 7 Murphy, Section 9-16-15, drilling at 1,000 feet; No. 8 Pate, Section 10-16-15, set 6-inch at 2,375 feet; No. 9 drilling at 1,650 feet, and derrick up for No. 10, same section.

Page and others have a fishing job at 2,480 feet in No. 5 Murphy, Section 7-16-15; Parrish and others are drilling No. 3 Ferguson, Section 6-16-15; Penguin Oil Co. is drilling No. 3 Murphy, Section 8-16-15, at 200 feet, and No. 3 Sandford, Section 6-16-15, at 2,300 feet; Phillips Petroleum Co. tested salt water at 2,405 feet and waiting orders in No. 5 Alphin, Section 11-16-15, and made location for No. 6, same section; No. 8 Giller, Section 10-16-15, tested salt water at 2,402 feet and drilling deeper at 2,525 feet.

Pure Oil Co. is drilling No. 1 Bilyew, Section 8-16-15, at 1,850 feet, and No. 4, same section, at 1,500 feet; No. 3 Friend, Section 6-16-15, drilling at 2,100 feet. A. H. Ramage and others have taken over part of the holdings of J. E. Crosbie and are drilling at 2,150 feet in Lawton C-5, and at 1,960 feet in Lawton C-6, Section 10-16-15; Riggs Drilling Co. is drilling at 1,885 feet in No. 1 Wingfield, Section 5-16-15, and Rogers and others, rigging up to drill No. 1 LeCroy, Section 17-16-15.

Roxana Petroleum Corp. has nearly completed No. 2 and No. 3 Bilyew, Section 9-16-15, and No. 4, same section, tested 20,000,000 feet of gas with 300 bbls. of salt water and b. s., and arranging to core at 2,440 feet; No. 12 Flenniken, Section 10-16-15, drilling at 1,500 feet; three rigs running on Flenniken lease, Section 5-16-15; Flenniken C-2, Section 8-16-15, tested 2,000 feet of oil at 2,398 feet and arranging to test at 2,404 feet; C-3, drilling at 2,380 feet, and C-4 at 2,085 feet, with four rigs running on the Hardy-Murphy lease, Section 9-16-15.

Shreveport Oil Corp has derrick up for No. A-2 Murphy and three rigs running on the Murphy lease in Section 9-16-15; Simmons Oil Co. has four rigs running on the Cook lease, Section 16-16-15, and Standard Oil Co. has two wells rigging

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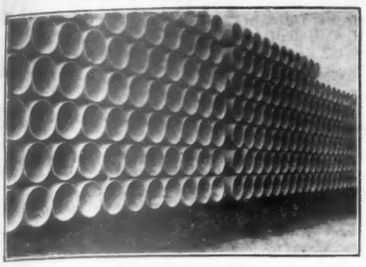

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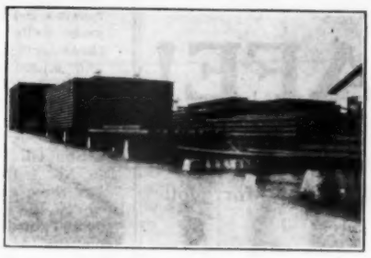

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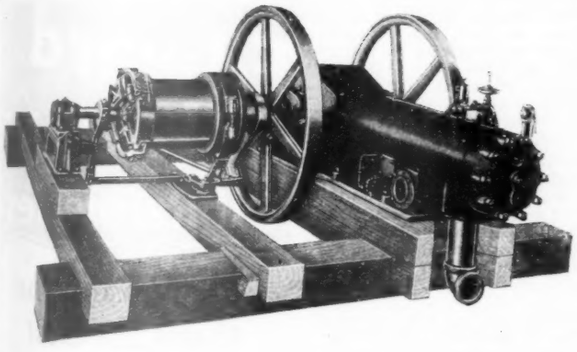

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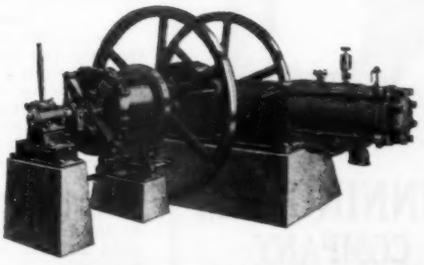

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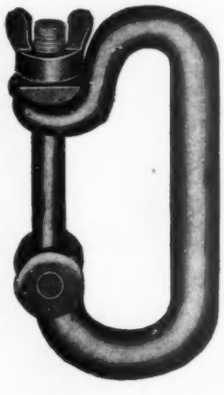

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up to drill on the Alphin lease, Section 3-16-15; drilling No. 3 M. W. Hardy, Section 9-16-15, at 2,350 feet, with six more wells started on the Hardy land, three derricks and two rigging up. Staves and others set 6-inch at 2,425 feet in No. 1 Cook, Section 16-16-15, and D. N. Stewart drilling at 2,325 feet in No. 1 Murphy and has a fishing job at 2,470 feet in No. 2, Section 9-16-15.

Sun Oil Co. set casing at 2,375 feet in No. 1 Hatfield, Section 6-16-15, and has three rigs running and one rigging up on the Hays lease, Section 3-16-15; The Texas Co. has three wells drilling on the Alphin lease, Section 3-16-15, three on the Graves, Section 3-16-15, two on the Calloway, Section 4-16-15, four on the Hays, Section 4-16-15; drilling No. 1 Howard, Section 7-16-16, at 1,950 feet; No. 1 Langley, Section 7-16-16, at 2,150 feet, and No. 2 E. G. Murphy, Section 14-16-15, at 750 feet.

Thurman and others are drilling at 1,950 feet in No. 1 Wingfield, Section 5-16-15; United Central Oil Corp. is rigging up to drill No. 5 Murphy, Section 8-16-15; Unity Petroleum Co., drilling at 715 feet in No. 2 Lawton, Section 10-16-15; set 10-inch at 310 feet in No. 2 Milner, Section 10-16-15, and has two wells nearing completion on the Roper lease, Section 3-16-15. Wetherbee and others have 100 feet of oil in 7 feet of sand at 2,305 feet in No. 1 McGraw, and derrick up for No. 2 in Section 10-16-15.

Stephens Field

The Buffalo Oil Co. set liner in 3 feet of broken sand at 2,209 feet in No. 1 Wesson, Section 26-15-19, and 6-inch casing at 2,015 feet.

Cotton Valley District

Very little work is in progress in the Cotton Valley district, drilling in this territory being practically confined to a few of the larger companies who have most of the close in acreage in their possession.

Humble Oil & Refining Co. is arranging to pump Bodcau B-18, Section 28-21-10, and drilling at 1,800 feet B-19, same section; testing 6 feet of sand at 2,517 feet in No. 6 Gray, Section 26-21-10, and rigging up to drill No. 1 Looney, Section 25-21-10.

Louisiana Oil Refining Corp. is drilling at 2,150 feet in No. 6 Gray, Section 28-21-10, and at 500 feet in No. 1 Jackson, Section 27-21-10.

Ohio Oil Co. has three wells ready to pump and two drilling, Sections 15, 27 and 28-21-10, two ready to pump and six derricks up on the Gray lease, Section 26-21-10, and drilling at 1,000 feet in No. 1 Dodges, Section 15-21-10.

Fortuna Oil Co. set 6-inch at 2,595 feet in No. 1 Branton, Section 16-22-9, and is down 50 feet in No. 3 W. Cox, Section 15-21-10.

Woodley Petroleum Co. set 10-inch at 438 feet in No. 3 Coyle, Section 28-21-10, and is arranging to pump No. 2 Gray, Section 26-21-10, at 2,570 feet.

Atlantic Oil Producing Co. set 12½-inch at 400 feet in No. 3 Bodcau, Section 23-23-12 in the Springhill district in the north end of the parish.

Wilder and Cushman has derrick up for No. 1 Leviston, Section 13-16-12, in the north end of the Elm Grove district.

Caddo Parish

Considerable interest is being taken in the deep test on the Hosston district, where previous development has resulted only in heavy oil from the 1,000-foot sand. The Dixie Oil Co. is drilling at 2,500 feet in No. 1 Jolley, Section 27-22-15. S. L. Ricketts has made a location for No. 1 Leevee Board, in Section 23-22-15.

In the Pine Island district, Dixie Oil Co. has set 6-inch at 3,572 feet in No. 63 Robertshaw, Section 13-21-15, and is down 200 feet in No. 5 State, Section 24-21-15.

Fortuna Oil Co. had a gas blowout in its deep test on the Robertshaw lease, Section 23-21-15, estimated at 30,000,000 feet, at 3,604 feet. The well is closed in but some of the drilling equipment is stuck in the hole.

M. N. Hancock started drilling No. 1 Hampton, Section 15-21-15, April 13, set 6-inch at 1,455 feet and is arranging to pump at 1,722 feet. McGoldrick and others are drilling at 1,410 feet in No. 6 Murray, Section 14-21-15; Odell & Lawton, drilling at 500 feet in No. 3 Weiss, Section 15-21-15; The Ohio Oil Co., drilling at 2,300 feet in No. 16 E. K. Smith, Section 7-21-14, and at 1,000 feet in No. 17, Section 12-21-15.

In the Oil City district, Fortuna Oil Co. is drilling at 2,800 feet in No. 2 Levee Board, Section 8-20-15, and Gulf Refining Co. at 2,795 feet in No. 69 Ferry Lake, Section 14-20-16. The Texas Co. is rigging up to drill No. 58 Levee Board, Section 27-21-16.

Fortuna Oil Co., drilling No. 1 Mitchell, Section 17-18-16, 4 miles west of Cross Lake, at 2,385 feet.

Haynes Brothers, drilling No. 1 Louisiana Live Stock & Planting Co., Section 8-19-16, 6 miles southwest of Mooringsport, at 2,530 feet.

D. C. Richardson's No. 1 McGuffin, Section 3-18-15, tested dry at 980 feet. The test is 13 miles northwest of Shreveport.

The Shreveport Producing & Refining Co. set 10-inch at 60 feet in No. 1 Bryson, Section 17-17-16, and Waterman Drilling Co. set 6-inch at 1,860 feet in No. 2 Hunting Club, Section 8-17-16, in the Waskom district.

Roy and others are rigging up to drill No. 1 Hutchinson, Section 34-16-12, and The Texas Co. is drilling at 2,550 feet in No. 1 Hutchinson, Section 15-15-12, both in the Elm Grove district.

Waterman Drilling & Development Co. set 6-inch at 1,862 feet in No. 2 Hunting Club, Section 8-17-16, 9 miles north of Shreveport.

Ouachita County, Arkansas

Continued increase in drilling activity in the Ouachita area results from the deep sand development and at the close of the week there were 84 drilling wells, 10 rigs, and 26 new derricks.

The Arkansas Fuel Oil Co. has derrick stuck at 2,283 feet in No. 5 Snyder; set 10-inch casing at 301 feet in No. 6 Snyder, and derrick up for No. 7 Snyder, all in Section 34-15-15; Bailey Murray Oil Co. is drilling at 2,000 feet in No. B-1 Rhoten, Section 32-15-15; drilling at 1,580 feet in No. B-2 Rhoten, same section.

Dashko and others set 6-inch casing at 2,366 feet in No. 2 Joyce, Section 34-15-15, and are arranging to test 10 feet of sand at 2,376 feet; El Dorado Union Oil Co., drilling at 2,005 feet in No. 1 Eagle Lumber Co., Section 17-12-15, and at 2,070 feet in No. 5 LaGrone, Section 36-15-17.

Forest Oil Co. cemented back to casing seat and will whipstock at 2,267 feet, No. B-2 Lewis, Section 26-15-16; Gilliland Oil Co., bailing to test at 2,281 feet in No. B-6 LaGrone, Section 36-15-17; waiting orders at 2,594 feet in No. B-5 Myar, Section 30-15-16; drilling at 1,835 feet in No. 5 Myar, Section 32-15-16.

Gulf Refining Co. has two rigs running in Section 33-15-15; one rig running and derrick up for another well in Section 5-16-15; set 10-inch casing at 303 feet in No. 5 J. Goodwin, Section 32-15-15.

Hickory Oil Co. is drilling at 2,253 feet in No. 2 Fincher, Section 32-15-16; Humble Oil & Refining Co., drilling at 1,988 feet in No. 1 Arnold, Section 26-15-16; waiting on standard rig with 20 feet of broken sand in the hole at 2,027 feet in No. B-3 Berg, Section 30-15-15; two rigs running in Section 6-16-15; lost hole of No. 3 F. Murphy, Section 3-16-15, and moved over 50 feet south; four rigs running in Section 5-15-15.

H. L. Hunt and others set 10-inch casing at 92 feet in No. D-1 Halton, Section 21-15-17, and reaming at 1,050 feet; Imperial Oil & Gas Co., drilling No. 6 McClanahan at 50 feet; rigging up No. 7 McClanahan, and derrick up for No. 8 McClanahan, all in Section 6-16-15; Invaders Oil Co., drilling at 2,160 feet in No. 5 Miller, Section 5-16-15.

D. N. Johnson is drilling at 1,200 feet in No. 4 Farris, Section 34-15-15; waiting orders in 1 foot of sand at 2,420 feet in No. 1 Fincher, Section 29-15-16; E. M. Jones is down 1,710 feet in No. 1 Wilson, Section 26-15-18.

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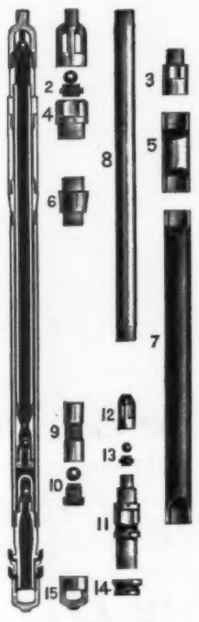

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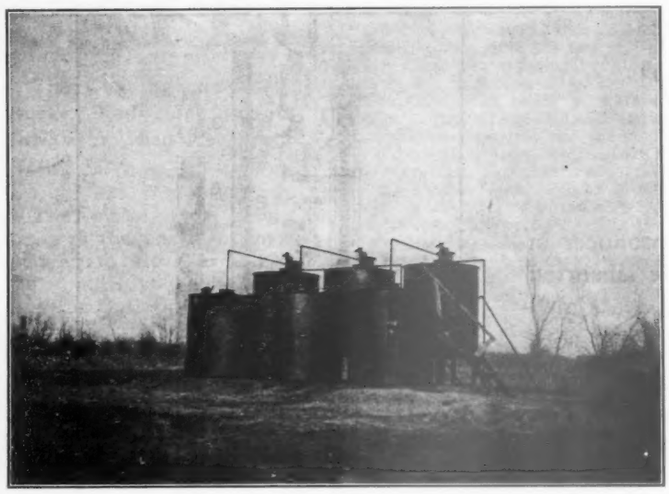

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are rigging up No. 1 Tyson, Section 27-15-17; Leon and others, drilling at 1,300 feet in No. 3 Berg, Section 4-16-15; 2,260 feet in No. 5 Berg, same section; skidded derrick for No. B-1 Umsted, 20 feet east, Section 4-16-15; Lion Oil & Refining Co., arranging to lubricate at 2,346 feet No. 2 Hays, Section 4-16-15.

Magnolia Petroleum Co. junked hole for No. 1 J. Goodwin, Section 5-16-15, at 2,000 feet and building new derrick 75 feet south. Marine Oil Co. is drilling at 2,225 feet in No. 4 Hays, Section 4-16-15; set 10-inch casing at 402 feet in No. 6 Hays, same section; set 10-inch casing at 429 feet in No. 6 Umsted, Section 5-16-15, and drilling at 1,855 feet in No. 7 Umsted, same section; rigging up No. 8 Umsted, Section 5-16-15.

Natural Gas & Petroleum Co. is drilling at 990 feet in No. B-1 Hill, Section 5-16-15; Owenwood Oil Corp., set 10-inch casing at 361 feet and drilling at 2,005 feet in No. 5 Snyder, Section 34-15-15; Penguin Oil Co. set 4-inch casing at 2,350 feet in No. 1 Umsted, Section 4-16-15, and drilling at 2,352 feet; Phillips Petroleum Co. have derrick up for No. 6 Joyce, Section 33-15-15.

Ramage and others set 6-inch casing at 2,280 feet in No. 4 Jeffus, Section 25-15-17; J. D. Reynolds waiting on standard rig with 1,200 feet of oil in hole at 2,392 feet in No. 2 Berg, Section 27-15-17; set 10-inch casing at 58 feet in No. 3 Berg, same section, and drilling at 985 feet.

Roxana Petroleum Corp. is drilling at 2,026 feet in No. 3 Snyder, Section 34-15-15; 2,058 feet in No. 4 Snyder, same section; and has four rigs running in Section 4-16-15; Shreveport Oil Corp. set 6-inch casing at 2,334 feet in No. 3 Umsted, Section 4-16-15.

Standard Oil Co. of Louisiana set 10-inch casing at 311 feet in No. 4 R. Bennett, Section 33-15-15; rigging up two wells in Section 5-16-15; two rigs running in Section 5-16-15; and rigging up No. B-7 J. E. and N. B. Murphy, in Section 29-15-15; rigging up No. 3 George Powell, Section 34-15-15; two rigs running in Section 32-15-15; drilling gumbo at 1,800 feet in No. 17 Umsted, in Section 33-15-15; drilling No. 2 Snyder, Section 34-15-15, at 2,301 feet.

The Texas Co. has derrick up for No. 9 Berry, in Section 33-15-15; drilling shale at 2,021 feet in No. 3 Neely, in Section 27-15-16; tested salt water, cemented back and arranging to whip stock at 2,288 feet in No. 5 Solmson, Section 32-15-16.

Sid Umsted set 6-inch casing at 2,348 feet in No. 1 fee, Section 4-16-15; estimated 20,000,000 feet of gas and spray of oil at 2,361 feet; arranging to lubricate; derrick up for No. 2 fee, same section; C. W. White set 10-inch casing at 300 feet in No. 1 Hill, Section 5-16-15, and drilling at 540 feet; rigging up No. 1 Martin, Section 26-15-15; O. F. Whittaker, derrick up for No. 2 Berg, Section 27-15-17.

Wingfield and others set 10-inch casing at 311 feet in No. 1 fee, Section 5-16-15, and drilling at 1,100 feet; shut in No. 1 Umsted for storage with 1 foot of sand in hole at 2,339 feet, Section 4-16-15; drilling No. 2 Umsted, Section 4-16-15, at 2,200 feet; Woodley Petroleum Co., drilling No. 5 Umsted, Section 4-16-15, at 2,300 feet; set 10-inch casing at 500 feet in No. 6 Umsted, same section, and drilling at 900 feet.

Zoller and Brown set 10-inch casing at 42 feet and 6-inch casing at 2,278 feet in No. 1 Myatt, Section 22-15-17.

Caldwell Parish

Culver and others set casing at 3,465 feet in No. 1 fee, Section 21-14-4e, 5 miles north of Columbia.

Claiborne Parish

Triangle Drilling Co. set 8-inch at 2,404 feet in No. 1 J. H. Cox, Section 7-12-5, 12 miles southeast of Homer.

De Soto Parish

Fortuna Oil Co. is drilling in sand rock at 1,622 feet in No. 1 Alexandria, Section 32-12-15, 5 miles east of Logansport.

Gulf Refining Co. set 15½-inch at 390 feet in the Willis Williams C-18, Section 31-13-11, in the old Naborton district.

The Texas Co. is drilling in shale at 1,595 feet in No. 30 Christine, Section 6-12-11.

Jackson Parish

Eldorado Chief Oil Co. is drilling in rock at 1,910 feet in No. 1 J. H. Rhymes, Section 13-14-4w, 18 miles north of Winfield.

La Salle Parish

The Alexandria Urania Oil Co. is building derrick on State land in Section 26-10-1e, three miles southwest of Urania.

Ford and Banner have derrick up for No. 1 Tullos, Section 23-10-1e, two miles southwest of discovery well.

Gulf Refining Co. is drilling at 2,720 feet in Urania A-1, Section 22-11-2e, four miles northeast of discovery well.

Gould & Monroe are drilling at 1,200 feet in No. 1 Harper, Section 23-10-1e.

Heard and others have derrick up for No. 1 Boyd, Section 29-11-2e, four miles north of the discovery well.

Helm and Burch set 10-inch at 300 feet in No. 1 Urania, Section 28-11-2e, four miles northeast of discovery well.

Rowe and others set 8-inch at 1,745 feet in No. 1 Urania, Section 7-10-3e, six miles east of the discovery well.

The second producer, drilled by Zeigen and others on the Urania Land Co.'s lease offsetting the discovery well in Section 18-10-2e, was cleaned out after sanding up at 1,512 feet and came in flowing at the rate of 600 bbls. per day, 98 per cent salt water. They are arranging to pull liner and set screen.

Lincoln Parrish

Gulf Refining Co. is drilling at 2,335 feet in No. 1 Dudley, Section 4-18-4w, two miles north and a little east of Ruston.

Ruston Drilling Co. is drilling at 200 feet in No. 1 Richardson, Section 7-18-2w, nine miles northwest of Ruston.

Morehouse Parish

Natural Gas Producing Co. is drilling plug in 6-inch casing in No. 16 Crossett, Section 15-22-5, at 2,287 feet.

Union Parish

Roxana Petroleum Corp. is drilling at 2,036 feet in No. 1 Henderson-Bennett, Section 13-22-3w, fifteen miles northwest of Farmerville.

Ruston Drilling Co. is drilling at 1,800 feet in No. 1 James-Willer, Section 7-20-4e, and The Texas Co. set 12½-inch at 260 feet in No. 3 Grayline, Section 21-20-4e, on the north edge of the Monroe gas field.

Arkansas Wildcats

Calhoun County

Murdock and others set 10-inch at 60 feet and are down 810 feet in No. 1 Eagle Lumber Co., Section 29-12-15, eight miles northeast of Camden.

Columbia County

Arkansas Fuel Oil Co. is rigging up to drill No. 1 Longino and Goode, Section 14-18-20, nine miles southeast of Magnolia.

Transcontinental Oil Co. drilled deeper in No. 1 McClurkin, Section 6-16-19 and is arranging to pump in 14 feet of broken sand. This well is in the south end of the Stephens district.

Virgil Heath, Trustee, is drilling at 2,853 feet in No. 1 Williams, Section 1-19l-21 eleven miles south of Magnolia.

Wingfield and Mitchell shut down at 2,024 feet in No. 1 Bodcau, Section 4-20-21, and are drilling a water well. This test is 3 miles northwest of the Haynesville Field.

Hempstead County

J. G. Wooten is drilling at 1,850 feet in No. 1 Clarke, Section 22-11-24, eight miles west of Prescott.

Lafayette County

Bates and others closed down at 50 feet and are drilling a water well in No. 1 Bodcau, Section 13-18-24, twelve miles south and a little east of Lewisville, and G. W. Wetherbee set 12½-inch at 150 feet and is drilling at 800 feet in No. 1 Jeffus, Section 8-19-23, five miles farther south of the Estes well.

Humble Oil & Refining Co. is waiting orders at 1,450 feet in No. 1 Bodcau-Riggins, Section 21-15-22.

Miller County

J. A. Adams is drilling at 450 feet in No. 1 Bale, Section 15-16-26, twelve miles west of Lewisville.

Nevada County

In the Nevada County Field, Gronco

and others set 6-inch at 1,118 feet in No. 3 McKinney, Section 10-14-21, and Steele and others set 6-inch at 1,230 feet in No. 1 Wallace, Section 11-14-21.

Zing and others are drilling at 1,290 feet in No. 1 Graves, Section 22-10-23, seven miles northwest of Prescott.

Two interesting tests are in progress in the south Eldorado Field. Magnolia Petroleum Co. tested dry at 2,356 feet in No. 1 Chandler, Section 4-19-14, four miles east of production. Mathews and others are pulling casing to abandon in No. 1 Teele, Section 11-19-12, fifteen miles east of production.

KANSAS FIELDS

(Continued from Page 40)

21-10. R. W. Talbot and others are drilling at 500 feet with a machine in No. 1 NW cor. NE, Section 25-21-10.

The Southwestern Petroleum Co.'s No. 1, SE cor. SE, Section 29-21-12, is dry and abandoned at 1,990 feet. McMahon and others' No. 1, SE cor. SW SE, Section 29-21-12, is completed for 30 bbls. natural from sand at 1,908-1,921 feet. Swartz and others' No. 2 Jones, CSL SW SE, Section 31-21-12, had sand at 1,889-1,916 feet, was shot with 40 quarts and is good for 25 bbls. The Phillips Petroleum Co. has a rig up for No. 1, SW cor. SW NW, Section 32-21-12.

Greenwood County

The Greenland Oil Co. has a rig up for No. 6, SE cor. NW SE, Section 10-23-9. The Skelly Oil Co. and the Emerald Oil Co. will shoot their No. 2 Teeter, NE cor. NW, Section 10-23-9. Sand was 2,400-2,414 feet and the well is swabbing 25 bbls. They have completed their No. 3 Teeter, SW cor. NE NW, Section 10-23-9. Sand was at 2,358-87 feet, the well was shot with 60 quarts and is good for 90 bbls.

The Phillips Petroleum Co.'s No. 2, NE cor. SW SW, Section 15-23-9, has been completed in sand at 2,335-93 feet. It was shot with 150 quarts and is doing 175 bbls. on the swab.

Davis, Hazlett and others have a rig up for No. 4, NE cor. SE SE, Section 12-22-10. The Skelly Oil Co. and others have spudded No. 3 Kipfer, SE cor. NE NW, Section 13-22-10. The Syndicate Oil Co. has spudded No. 4 Kipfer, NW cor. SE NE, Section 13-22-10. The White Eagle Oil Co. has spudded No. 1 Kipfer, NW cor. NE, Section 13-22-10. The Theta Oil Co. is spudding No. 10 NE cor. NW, Section 17-22-10.

C. W. Titus' No. 1 Prather, NW cor. NW, Section 29-22-10 had sand at 2,350-70 feet, and is swabbing 300 bbls. It may be drilled deeper. The Phillips Petroleum Co. has the rig up for No. 1 SE cor. NW, Section 30-22-10. The Mid-Kansas Oil Co.'s No. 4, NE cor. NW SE, Section 30-22-10 is drilling at 300 feet.

The Greenland Oil Co.'s No. 3-A, NE cor. SW NE, Section 2-23-9, had sand at 2,405-27 feet, total depth at 2,429 feet. It was plugged back to 2,427 feet on account of water and is doing 100 bbls. after an 80-quart shot.

The Greenland Oil Co.'s No. 1 C SE cor. NE NW, Section 2-23-9, had sand at 2,333-2,408 feet with 3,000,000 feet of gas and was shot with 60 quarts. It is doing 125 bbls. Murphy and others' No. 3 Green, SE cor. SW SW, Section 2-23-9 is drilling at 1,100 feet. The Skelly Oil Co. has completed No. 1, SE cor. NW, Section 2-23-9. Sand was at 2,303-63 feet, and the well is making 4,000,000 feet of gas and 250 bbls. naturally.

The Phillips Petroleum Co.'s No. 8 Edwards, SE cor. NW SE, Section 13-23-10 is completed. Sand was at 2,055-2,116 feet, the well was shot with 180 quarts and is making 30 bbls.

Other Operations

The Empire Gas & Fuel Co. has completed No. 4 Hines, SW cor. SW, Section 11-22-11. Sand was at 1,850-95 feet and the well was shot with 125 quarts and is good for 240 bbls. The Tidal Oil Co. is spudding No. 1, SE cor. NE, Section 11-22-11. Fisher, Louck, and the White Eagle Oil Co. have spudded No. 2, SW cor. NW, Section 12-22-11. The Empire Gas & Fuel Co. has completed No. 4, NE cor. NW NE, Section 14-22-11. Sand was at 1,834-1,907 feet, the well was shot with 185 quarts and is swabbing 570 bbls. The Empire Gas & Fuel Co.'s No. 4, NE cor. NE, Section 15-22-11, is drilling at 580 feet. Milligan and others' No. 6 Bersie, NE cor. SW, SE, Section 22-22-11, had sand at 1,909-69 feet, was shot with 60 quarts and is making 10 bbls. oil and 90 bbls. of water.

The Empire Gas & Fuel Co.'s No. 3, SE cor. SW NE, Section 32-22-11, is spudded. The Empire Gas & Fuel Co.'s No. 4, SW cor. NW NE, Section 32-22-11, is a rig on the ground. The York State Oil Co. has completed No. 15, NE cor. NW, Section 32-22-11. Sand was at 1,905-68 feet, and the well is doing 250 bbls. after a shot of 120 quarts. The York State Oil Co.'s No. 16, NW cor. SW SE, Section 32-22-11, is drilling at 400 feet. The Skelly Oil Co.'s No. 1, SW cor. NE, Section 36-22-12 is dry and abandoned at 2,177 feet. Rhodes, Able & Simmons' No. 1, SW cor. NW, Section 24-22-11 is a new machine. The Enterprise Oil Co.'s No. 1, SW cor. NE, Section 32-23-11, is drilling at 1,300 feet.

Gillespie's No. 1, SE cor. NE NW, Section 22-22-13, is shut down at 900 feet. Braden Brothers' No. 1, SW cor. SE NE, Section 27-22-13 is drilling at 1,100 feet. The Tidal Oil Co. has completed No. 8, NE cor. SE, Section 15-23-13. Sand was at 1,765-1,827 feet and the well was shot with 120 quarts and is good for 20 bbls. The Arkansas Fuel Co.'s No. 12, SW cor. NE SW, Section 29-22-13, is drilling at 1,560 feet.

Redgraves and others' No. 1, CSW SE, Section 21-24-11 is spudded. McGinnis and others' No. 1, NE cor. NW SE, Section 30-24-11 is drilling at 1,275 feet. The Houston-Oklahoma Oil Co.'s No. 10, SE cor. NW SW, Section 14-24-12, is completed for 40 bbls. after a shot of 100 quarts in sand at 1,741-67 feet.

The Franklin Oil Co. has spudded No. 2, NW cor. SW SE, Section 15-24-12. The Lime Iola Oil Co.'s No. 3 CSL NE SW, Section 15-24-12, is drilling at 400 feet. Kettle and others' No. 1, NE cor. SE SE, Section 36-24-12 is drilling at 600 feet. Ed Parkins and others have a machine in for No. 1 NW, cor. SW, Section 7-25-12.

The Mid-Continent Petroleum Co. has a rig on the ground for No. 1, NW cor. NE NW, Section 3-27-12.

Chase County

The Lewis Oil Co.'s No. 6 Elliot, SW cor. NW SE, Section 21-20-6 is dry and abandoned at 2,953 feet.

Elk County

The Tidal-Osage Oil Co. has a machine in for a test, No. 1, SW cor. NE NW, Section 30-30-10.

Able & Byington have a machine in for No. 1, NW cor. SW NE, Section 22-21-11.

Cowley County

Shawver and others' No. 3, NW cor. SW NE, Section 15-30-4, had sand at 2,760-85 feet. It was squibbed with 5 quarts and is making 20 bbls. on the swab.

C. E. Roth is spudding No. 1, NE cor. SE NW, Section 30-31-5. The Empire Gas & Fuel Co. has 150 feet of oil in the hole in No. 3 Brown, NE cor. SW NE, Section 13-31-7 from sand at 2,707-10 feet.

Roth and others have completed No. 2, NE cor. NW, Section 4-30-8. Sand was at 2,082-2,115 feet and the well is making 50 bbls. after a shot of 120 quarts. Waggoner and others are drilling at 800 feet in No. 1, NE cor. NW NE, Section 5-30-8. The Trees Oil Co. is drilling at 2,300 feet in No. 2, SW cor. Lot 20, Section 6-30-8.

The Tidal-Osage Oil Co. has a machine in for No. 1, SW cor. NE NW, Section 30-30-10.

Near Oxford, T. B. Slick's No. 1-B, NE cor. SW, Section 19-32-3 had sand at 2,593-2,614 feet with 1,000 feet of oil in the hole. It will be swabbed.

T. B. Slick's No. 2-A, SE cor. SW NE, Section 19-32-3, had sand at 2,585-2,602 feet, and swabbed 360 bbls. in 11 hours.

The Roxana Petroleum Corp.'s No. 1-A NE cor. NW SE, Section 9-33-3, had the Wilcox sand at 3,509-12 feet, siliceous lime at 3,517-18 feet. It is swabbing 230 bbls. oil and 12 bbls. of water. Its

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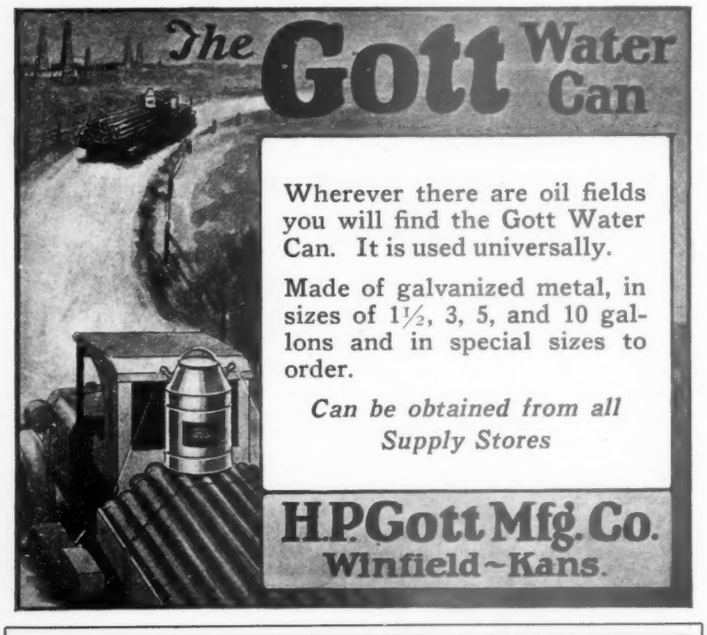
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No. 5, NW cor. NE SW, Section 10-33-3, is drilling at 630 feet.

The Marland Oil Co. is fishing for tools in No. 3-A, SE cor. SW NW, Section 10-33-3 at a depth of 390 feet and has spudded No. 6, SE cor. NW, Section 10-33-3. Its No. 1 Wright, NW cor. NW, Section 10-33-3 had sand at 3,512-19 feet and swabbed 125 bbls. oil and 100 bbls. water the first day.

In the Rainbow Bend Pool the Waite Phillips-Independent Oil & Gas Co.-Marland Oil Co. have ordered out several new rigs as a result of the big wells recently drilled in there. No. 2, SW cor. SE NW, Section 17-33-3. No. 3, SE cor. SW NW, Section 17-33-3, and No. 4, SW cor. NW, Section 17-33-3, have rigs on the ground.

The Waite Phillips-Marland Oil Co.-Independent Oil & Gas Co.'s No. 1 Nelson, NE cor. SE, Section 19-33-3 is dry and abandoned at 3,633 feet. Their No. 5, SE cor. NE SE, Section 20-33-3, is drilling at 390 feet and No. 1-A, NE cor. NW, Section 29-33-3 is dry and abandoned at 3,273 feet.

The Marland Oil Co. and Neely have completed No. 3 Rockwell, NW cor. SW NE, Section 13-32-4. Sand was 2,569-74 feet and the well originally made 125 bbls. of oil and 50 bbls. of water. It is now making 130 bbls. of oil and 30 bbls. of water.

Hull and others' No. 1, SE cor. SE, Section 14-32-4, was cleaned out to bottom and swabbed 15 bbls. of oil. The hole filled up 500 feet with oil over night.

Brady Brothers' No. 1, NE cor. NW SE, Section 31-32-4 is at a total depth of 3,237 feet. It will be drilled down to the Wilcox sand.

McKnobb's No. 1, NE cor. SW, Section 34-32-4, topped sand at 2,985 feet; water. Top of lime, 3,040 feet, at 10 feet in, the oil filled up 300 feet over night. It will be drilled in after tankage has been set. Sam Murphy is spudding No. 1, SE cor. NW, Section 30-33-5.

The Trees Oil Co.'s No. 1 Bates, SE cor. SW NW, Section 13-32-6 is dry and abandoned at 3,145 feet.

GULF COAST

(Continued from Page 48)

doned a deep test there in No. 1 Lingua at 4,440 feet. The Union Sulphur Co. abandoned Nos. 12 and 13 Davis as sulphur tests at 650 feet. The Gulf Co. has a derrick up for No. 21 Davis. Its No. 18 Davis is being rigged to pump.

At Damon Mound, Hamm & Co. are deepening No. 3 Bryan from 1,510 feet, where it showed for a small pumper. That is the only work being done there.

The Southern Petroleum Co. (Peer Oil) is setting casing in No. 43 Landslide in the Humble Pool and will test 12 feet of sand at 1,520 feet and some below. The Edwards Oil Co. is drilling No. 1 Sowden. Old holes are being worked over in both the cap rock and deep sand sections of the pool. The Kane Production Co. is rigging No. 3 on the north side of the San Jacinto River.

Stewart and McCarthy abandoned No. 1 Cherry, on hte west side of the Markham Pool in Matagorda County, at 2,034 feet. They will rig to work over an old hole in the Pool. The Rycade Petroleum Corp.'s No. 2 Gray is drilling at 4,035 feet.

South Liberty Pool

The most interesting drilling tests in the South Liberty Pool are the Sinclair Oil & Gas Co.'s No. 1 Condit, on the southeast side and 2,000 feet south from production, and the Humble Oil & Refining Co.'s No. 1 Mitchell, 1,800 feet northeast from the producing group of wells on the northeast side of the dome. The Sinclair Oil & Gas Co.'s test is at 3,855 feet with nothing showing yet and the Humble company's No. 1 Mitchell is below 3,455 feet. The Sinclair test is now below the level where production is found. The Associated Oil Co.'s No. 1 Deussen is around 3,235 feet, practically an offset to the Sinclair well, and the Brownie Babbittee Oil Co.'s No. 1 Mitchell is below 2,765 feet. The distance between the Sinclair and the Humble tests is about 1½ miles. The formations in the Sinclair test are running about 200 feet higher than in wells on the northeast.

The completions during the week include the Humble Oil & Refining Co.'s No. 2-A Pickett, flowing 700 bbls. initially at 3,490 feet with 40 feet of screen set. Its No. 2 Harrison-Pickett is a 250-bbl. pumper at 3,580 feet. No. 2 Schade is flowing 1,000 bbls. at 3,600 feet. No. 1 Hanzen was abandoned at 3,650 feet and No. 3-B Pickett at 3,750 feet. The company has 9 wells in the pool producing approximately 3,000 bbls. per day. The Gulf Production Co.'s No. 4 Schade is a 300-bbl. pumper at 3,550 feet and No. 5 is bailing at 3,640 feet, as in No. 2 Orgain at 3,650 feet. The Oxford-Navarro Oil Co.'s joint No. 5 Harrison will pump at 3,560 feet. No. 6 is flowing 200 bbls. at 3,640 feet. No. 7 is bailing at 3,630 feet and No. 8 is flowing 200 bbls. by heads at 3,640 feet. The Sun Oil Co.'s No. 4 Schade is bailing at 3,675 feet and No. 7 Schade at 3,700 feet. Abercrombie Oil Co.'s No. 2 Harrison is swabbing at 3,590 feet and No. 3 Harrison is bailing at 3,350 feet. Mills-Bennett's No. 9 Pickett is pumping 200 bbls. at 3,560 feet.

The Bashara Oil Co. worked over No. 1 Pickett and is putting it on the beam at 3,560 feet. No. 3 is drilling at 1,760 feet and No. 4 at 2,090 feet. No. 5 is around 1,000 feet.

The South Liberty Dome is more extensive than most of the Coastal saline elevations and no tests have been started on the west or south sides, operations being confined to the northeast side on which the discovery well is located.

In the pool, Mills Bennett's No. 10 Pickett is drilling at 2,550 feet; No. 11, 3,350 feet; No. 2 Revierre-Brown, 4,500 feet. Gulf Production Co.'s No. 1 Antoine, 3,475 feet; No. 1 Deussen fee, 3,250 feet; No. 1 Richardson, 3,250 feet; No. 2 2,300 feet; No. 3, 2,400 feet; No. 4, rigging up; No. 1 Schade, pulling screen at 3,650 feet; No. 6, drilling 3,100 feet; No. 7, 3,040 feet; No. 8, 1,500 feet; No. 3 Williams, 1,800 feet; No. 4, 3,600 feet. Hoffer Oil Co.'s No. 1 Pickett, milling; No. 2, shut down; No. 3, waiting on rig. Humble Oil & Refining Co.'s No. 3 Chambers "A," drilling 3,540 feet; No. 4, 3,500 feet; No. 5, 1,040 feet; No. 2 Chambers "B," 4,000 feet; No. 3, 3,770 feet; No. 4 Pickett, 3,350 feet; No. 5, 2,325 feet; No. 3 Pickett "C," 4,040 feet; No. 4, 1,900 feet; No. 3, 3,400 feet; No. 6, derrick; No. 13 Schade is a derrick; No. 4, drilling 3,430 feet; No. 5, 2,400 feet; No. 6, 325 feet. Oxford and Navarro Oil Co.'s No. 9 Harrison is drilling at 2,100 feet; No. 10, 1,500 feet. Peer Oil Co.'s No. 3 Harrison, 3,375 feet; No. 5, 3,380 feet; No. 6, 3,500 feet; Sun Oil Co.'s No. 5 Schade, 3,525 feet; No. 6, 3,580 feet; No. 8, derrick; No. 9, drilling 3,470 feet; No. 10, 2,525 feet. The Texas Co.'s No. 2 Staiti, 3,500 feet; No. 3, derrick; No. 4, rigging up; No. 1 Simms Fee, 3,530 feet; No. 2, 3,429 feet; No. 3, 3,100 feet; No. 4, 2,350 feet. Vacuum Oil Co.'s No. 8 Barrett, 2,225 feet; No. 9, 3,450 feet.

Goose Creek Pool

In the Goose Creek Pool, the Southern Exploration Co.'s No. 11 Wright is pumping 15 bbls. at 1,900 feet and the Sun Oil Co.'s No. 2 Wright is a 25-bbl. well at 2,540 feet.

Gulf Production Co. is sidetracking No. 16-H Basch there at 2,675 feet and drilling No. 17 J. Galliard below 4,055 feet. No. 15-A Wright is at 2,545 feet. No. 33 State land in the bay is at 2,065 feet and No. 9 Chapman-Bryan is drilling below 4,198 feet. The Humble Oil & Refining Co.'s No. 60 Smith is deepening at 4,144 feet. No. 61 Smith is drilling at 4,209 feet. No. 62 Smith is pulling the strainer at 2,000 feet to drill deeper. It bailed dry there. The Gulf Coast-United Central Oil Corp.'s No. 6 Galliard is around 2,545 feet and the Bruce Production Co.'s No. 1 Scorrgea, northwest of production, is sidetracking at 3,100 feet.

Orange Pool

In the Orange Pool, the Humble Oil & Refining Co.'s No. 15 Chesson, a workover, is making 350 bbls. of fluid, 40 per cent water, at 3,175 feet. The Tillery

(Continued on Page 158)

25 CENTS per line first insertion; 15c per line each additional insertion. Cash in advance.

CLASSIFIED WANTS

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FOR OIL LEASES or Royalty in Seminole County, Oklahoma, call o: write Brown Brothers, Seminole, Okla., Phone 127.

INVESTIGATE Union County, Kentucky, three shallow producers, gravity 34, deeper sands. Rentals 25c. E. R. Morton, Sec'y Board of Directors, Morganfield National Bank, Morganfield, Ky.

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FOR SALE—25,000 feet 3-in. O. D. welded gas line, suitable for low pressure on suction line, all intact but can be cut into lengths of a flat car. One 25 horsepower Simplex gas engine with 24-inch clutch pulley. Two 30-ton Dudgen jacks all in good second hand condition. Prices cheap. Write Tronesta Gas Co., Oil City, Pa.

FOR SALE—No. 4 Clipper, steam tractor. Good condition. List of tools on application. Box 332, Bowling Green, Ky.

FOR SALE—1,400 feet of 8¼", 24-lb casing, been run once and is good as new. Also No. 24 Star drilling machine with boiler mounted, plenty of tools, cables and fishing tools. A big bargain. J. Fred Willingham, 3320 Gilham Road, Kansas City, Mo.

FOR SALE
70,000 ft. 6⅝", 24-lb. 10 thd. S. H. Casing.
20,000 ft. 6", 19.36-lb, 8 thd. S. H. line pipe.
10,000 ft. 8¼", 17-lb, P. E. S. H. Casing.
Ranger, Texas District.
"We own it"
LONGHART SUPPLY CO.
Ft. Worth, Tex.

ROTARY GAS BOOSTERS AND EXHAUSTERS, BLOWERS, COMPRESSORS AND PUMPS
Rotary Gas Exhausters up to 400,000' per hour. Blowers up to 550,000' per hour, 1 to 6 pounds pressure.
Air Compressors, belted and steam drive small and large capacities and pressures. Volume fans and exhausters, all purposes. New Fulflo Centrifugal Pumps belt and motor driven up to 75 gallons per minute.
Bessemer Gas Engine, 110 h.p. Twin cylinder horizontal, fine condition.
Pneumatic Machinery specialists, buy and sell.
CLIFTON-PRATT CO.
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FOR SALE
Two splendid Corliss Engines with 4 boilers and all accessories for same ready to set up and start, with lots of extras, one 350 h.p. and the other 450 h.p., all in excellent condition, now on original foundations in large cotton mill.
Also four large tanks made of ½" steel plate 20'x6' riveted, in excellent condition, at very attractive prices. One triplex double-acting Smith-Vaile pump, capacity 360 gallons per minute, in excellent condition, belt driven with motor or engine. Machine tools, lathes, pipe machines, all sizes, planers, shapers, drills, grinders, etc., slightly used at great bargains, also tool steel, drill steel, electric and gasoline motors, etc., will contribute liberally to freight charges to western and southern states.
A. C. BELLEFLEUR & SON CO.
81 Hamilton St. New London, Conn.

FOR SALE—28 Star drill at Jonesburg, Kansas. Box 36, Florence, Colo.

FOR SALE—No. 4 Clipper gas tractor, two strings tools; fine condition; located Whitesville, Ky. H. E. Cowling, Box 926 Punta Gorda, Fla.

CABLE TOOLS FOR SALE CHEAP
A complete string 15½ to 6⅝. Good condition. Complete list and price on application, James Lugg, Ryan, Okla..

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PIPE FOR SALE
We offer the following used gas line pipe for sale:
15 miles 3-inch
20 miles 10-inch
7 miles 12-inch
5 miles 14-inch
Write us for prices.
BAUR GAS CO.
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SECOND HAND PIPE
Reconditioned, with new threads and couplings, absolutely guaranteed. Immediate delivery.
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A REAL BARGAIN AND OPPORTUNITY
Gas producing plant and engines with all equipment for sale.
Producer of sufficient capacity to supply 300 h.p. gas engines. One 150 h.p. Westinghouse 3-cylinder gas engine, direct connected to AC generator and exciter; 100 KVA, 2,400 volts, 3 phase, 60 cycles, one 86 h.p. Westinghouse 2-cylinder vertical gas engine. Two 45 h.p. Horizontal Otto gas engines.
These machines and gas producers are all on foundations and in first class condition. They may be inspected at any time and can be purchased at a very reasonable price. Address Erie Railroad Co., Attention Mr. W. R. Collins, Manager of Purchases, 71 West 23rd St., New York, N. Y.

FOR SALE—One St. Mary's 20 h.p. oil engine, Semi-Diesel type. Good condition. And one 12x5⅞ belt driven O.W.S. Mud Hog Pump. Home Pipe Line Co., Box 372, Brownwood, Tex.

FOR SALE—Stored at Roswell, N. M., lot of miscellaneous drilling tools. Stored near Santa Fe, N. M., complete standard 6-inch rig with engine, boiler, all connections and some small tools. Also some 10, 8 and 6-inch casing. Priced to sell and ready for immediate delivery Box A-740, The Oil and Gas Journal, Tulsa, Okla.

TWO—125 KW, GE, 480 or 2,300 V. 3 Ph. 60 Cy. Generators each direct connected to 3 cylinder, 16½x16 Rathbun Jones Gas Engine, vertical. Perfect condition, $2,000 each. H. R. Wilson Machinery Co., 417 Pine St., St. Louis, Mo.

CALIFORNIA Redwood Tanks. Special drive, 3-inch stock, 12 ft. diameter, 18 ft. high. Flat hoops, oil or storage. Up inside almost perfect. Dixie Silo & Cutter Co., 403 Presbyterian Bldg., Nashville, Tenn.

FOR SALE—4 Miller 110 h.p. two stage gasoline plant compressors, used very little. Interstate Gasoline Co., Wichita Falls, Tex.

FOR SALE—One string standard cable drilling tools, National Supply Co. make, used on one hole only. Stored on Santa Fe and Frisco tracks, Fredonia, Kan. Longco Oil Corp., 710 Security Building, Minneapolis, Minn.

FOR SALE at the Republic Refinery site, Jennings, Okla., two 100 h.p. return flue boilers, new; two 80 h.p., in good condition, with good stacks. Two 100-bbl. ⅝ iron stills, manhole top and end, new, and six 80-bbl. stills. One 150-bbl. agitator, one cooling box 20x50x6 ft., good condition. Five 1,000-bbl. steel bolted tanks, ten 500-bbl., ten 250-bbl., one 100-bbl., all good. Half million common brick, cleaned and 30,000 fire brick, good as new. Fittings of all kinds in six, four and three-inch sizes. C. T. Benner, Jennings, Okla.

FOR SALE—Used 40 h.p. De La Vergne Type HA Oil Engine 16x21" and one 30 KW Westinghouse D. C. Generator 125 volt, 750 speed. Good condition. David Schell, Myerstown, Pa.

FOR SALE—EQUIPMENT

BRECKENRIDGE PIPE YARD
Casing Line Pipe
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FOR SALE — No. 30 Star Machine, complete string of tools from 12½ down, 40 h.p. boiler. All in good condition and priced right. Phone 2-8822, 1416 N. Main, Tulsa, Okla.

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1 6-inch Bulldozer pump.
Underreamers—1 6⅝ Swan complete.
1 8¼ Wilson Per. underreamer complete.
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1 6⅝ bottom hole packer, new.
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1 5 3-16 Fox trip casing spear.
12½x8¼ Jack ring bushing.
Set 8¼x6⅝ Jack ring wedges.
12½ 2-lug Jack ring.
Set 12½x12½ wedges for same.
Set 12½x10 wedges for same.
Set 8¼x8¼ wedges for same.
8¼ steel die nipple.
Setting tool for underreamer.
6⅝ casing control head, new.
2 6⅝ I. P. gate valves, new.
Set 4-in. sq. driving clamps.
1 derrick 5 x6½ rig iron and derrick.
All the above are practically new. Some are new and never used.
Prices on application. Address

JAMES LUGG
Ryan, Oklahoma

EQUIPMENT WANTED

WANTED—One 8-inch "Landis" pipe cutting and threading machine. Address Twin City Steel Mfg. Co., 2652 34th Avenue South, Minneapolis, Minn.

WANTED—PIPE
We are in the market for all sizes of pipe at all times. Wire or write us what you have to offer.
The Petroleum Supply Co., Inc.
Taft, Calif.

HELP WANTED

EXECUTIVES, ENGINEERS, $3,000-$25,000, find our individual, confidential service effective in making new connections. Personally conducted by Mr. Jacob Penn, the eminent employment authority, known to leading business men throughout America. Not employment agency. Jacob Penn, Incorporated, 305 Broadway, New York City, New York.

EXPERT ACCOUNTANT with auditing experience, familiar with manufacturing refinery accounting and cost determinations, particularly where "cracking" units are operated. Must be willing to travel. Apply stating age, education, experience, salary expected and references. Box A-725, The Oil and Gas Journal, Tulsa, Okla.

WANTED—Refinery superintendent for small refinery. Must be thoroughly competent, able to manage economically and efficiently. Box A-741, The Oil and Gas Journal, Tulsa, Okla.

POSITION WANTED

GEOLOGIST — Successful career; wishes connection with good company. Box A-751, The Oil and Gas Journal, Tulsa, Okla.

DRAFTSMAN—Six years experience with geologist, desires position, field or office. Thos. H. Ross, Route 10, Tulsa, Okla.

POSITION WANTED

ACCOUNTANT — Graduate leading account school; 10 years practical experience; 5 years public accounting. Specialized on oil company and income tax accounting. Successful record. Best of references. Box A-742, The Oil and Gas Journal, Tulsa, Okla.

POSITION desired as pipefitter foreman or construction superintendent for refinery. Experienced in all kinds of pressure still, and also general refinery pipe work. Address J. C. Kneidl, Box 62, Evansville, Wyo.

WANTED—Position as office manager of sales correspondent. Former experience with dealer in used supplies and producer. Write C. H., The Oil and Gas Journal, Tulsa, Okla.

TWO RECENT GRADUATE geologists with special oil training desire connection with staff of medium sized company. Will consider foreign work. Box A-750, The Oil and Gas Journal, Tulsa, Okla.

WILL RAISE from $10,000 and up for any legitimate company. Write Advertiser, 61 Pulaski, Buffalo, N. Y.

14 YEARS railroad and commercial traffic experience. Understand claims, rates, etc. Desire connection where ability and hard work will be appreciated. Will go anywhere. Box 736, Wewoka, Okla.

CHEMIST—M.S., 33 desires position, utilizing training with reliable oil company. Twelve years' experience including some on oil products. Competent to take charge of laboratory. Box A-732, The Oil and Gas Journal, Tulsa, Okla.

PIPE LINER—University graduate, five years' practical experience in all departments desires connection with company that can offer him a future. Now employed. Box 703, Electra, Tex.

SUPERINTENDENT
DRILLING PRODUCTION
Have managed drilling and producing operations from Louisiana to Wyoming. Graduate engineer. Excellent references. Box A-729, The Oil and Gas Journal, Tulsa, Okla.

WANTED

CORRESPONDENCE is invited from sales engineers with established offices in Chicago, Cleveland, St. Louis, Cincinnati, Kansas City, Pittsburgh and New Orleans, competent to handle a high grade line of rotary pumps. Give outline of organization lines handled and territory covered. William E. Quimby, Inc., 209 Parkhurst St., Newark, N. J.

WANTED
Partner as vice president in a leasing company, who has a few hundred dollars. Good proposition, have several thousand acres on three different structures. Can lease more on three others. Write C. M. McConnell, Big Sandy, Mont.

WANTED—Oil production, from 100 barrels up, good gravity. I am no broker. P. O. Box 1239, Tulsa, Okla.

WANTED—Dogs to board. Best of care and feed. F. S. Thompson, Route 1, Tulsa, Okla., just east of McFarland golf links, and one-eighth mile south of Federal Drive.

WANTED—Ten to 50 bbls. of production with opportunity for further development. Buyer, Box 1214, Wichita Falls, Tex.

WANTED—To get in touch with contracting firms who will submit proposals to lay a gas line from a well north of Cambridge, Ohio, to the town of Cambridge. For full particulars address Box A-724, The Oil and Gas Journal, Tulsa, Okla.

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WANTED — Producing royalties, Oklahoma and Kansas. Give full details. P. O. Box 502 Independence, Kans.

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CLASSIFIED WANTS

MAIL your advertisement now. It will be published next week. Cash with order.

(Continued from preceding page)

WANTED

WANTED—Management drilling test wells in semi-proven field, Eastland County, Texas. Have had 15 years' experience as petroleum engineer, driller and lease man, 5 years oil and gas supervisor. Have 100 acres near production for well. Other large blocks with good prospect. L. G. Graves, Box 426, Eastland, Tex.

THE SOLAR OIL CO., 414 Patterson Bldg., Denver, Colo., desires established lease brokers to sell its oil leases and royalties, located on structure near drilling wells in Colorado and New Mexico.

WANTED — Information regarding zinc, lead, antimony, bauxite, gold and silver deposits, and oil structures in Oklahoma and Texas. Box A-463, The Oil and Gas Journal, Tulsa, Okla.

BUSINESS OPPORTUNITY

CORE-DRILL your structure before putting cable tools at work. It will save you time and money. St. Clair Exploration Co., Diamond core-drill contractors, Cosden Bldg., Tulsa, Okla. Established 1903. Geo. H. St. Clair, Mgr.

CAPITAL SEEKERS — Put your project before 1,400 "keymen." Cost trifling under my plan. Details free. Amster Leonard, First National Bank Bldg., Chicago, Ill.

FOR SALE—A well equipped machine shop, one-half block off Main Street, Blackwell, Okla.; in heart of Northern Oklahoma oil field. Reason for selling, retiring on account of health. Write O. R. Paine, Blackwell, Okla.

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YOU CAN BE WELL. Get our copyrighted system. $10. Columbus Institute, Box 805, Kansas City, Mo.

OIL IN SOUTH FLORIDA — The wonder State, may surprise the world, structure so large, geologists overlooked it. A world-wide oil company just leased large acreage. I have for sale, leases close in, C. W. Brown, Frostproof, Fla.

BUSINESS OPPORTUNITY

Will sell controlling or entire interest in $20,000.00 corporation organized under laws of Texas for the purpose of selling well known and one of the highest grades of lubricating oils and products on the market, paraffine base. Have contract with exclusive selling privilege for entire State of Texas. Flexible charter to cover any line of automobile accessories or lubricant.

This is an unusually attractive proposition for a concern with established sales organization. $10,000.00 will handle including stock and equipment. Give reference in reply. Oil Distributor, The Oil and Gas Journal, Tulsa, Okla.

BUSINESS OPPORTUNITIES

If you are interested in a drilling proposition or buying leases, royalties, fee lands in and near South Arkansas oil fields. Communicate with us at once the amount of acres and price you wish to pay. We are in position to get what you are looking for. We have scouts in the fields. Well in Section 9-16-15 said to be flowing 40,000 bbls. of oil per day. Write or wire.

G. E. CROWLEY & CO.
Waldron, Ark.

MAKE MONEY through mail. Send for free circular. Agents Guide, Fifteen Amboy St., Brooklyn, N. Y.

CAPITAL SEEKERS confronted with difficult financing problems should communicate with Amster Leonard, First Nat'l Bank Bldg., Chicago, Ill.

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DO YOU NEED MONEY for organizing or financing oil, mining or other propositions? Phone M 7794, write, 35 E. Tenth, Oklahoma City, Okla.

ESTABLISHED—Responsible oil jobber wishes to hear from refiner or marketer with capital to help increase present organization. Address James Grant, 416 West 9th St., Oklahoma City, Okla.

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6 lines	1.50	2.40	3.30	4.20
7 lines	1.75	2.80	3.85	4.90
8 lines	2.00	3.20	4.40	5.60
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Mail your advertisement to

THE OIL AND GAS JOURNAL

Tulsa, Oklahoma

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Famous throughout the oil fields.

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INTERNATIONAL REGISTRY CO.
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PATENT-SENSE—Free book for inventors seeking largest deserved profits. Write Lacey & Lacey, 718 F St., Washington, D. C. Established 1869.

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CHARTERS—Delaware best, quickest, cheapest, most liberal. Nothing need to be paid in. Do business and hold meetings anywhere. Free forms. Colonial Charter Co., Wilmington, Del.

DELAWARE incorporator. Charters, fees small, forms. Charles G. Guyer, 901 Orange St., Wilmington, Del.

LETTERHEADS—PRINTING

PRINTING 250 letterheads, 250 envelopes, $3.00; 5,000 envelopes or letterheads, $12.50; two color work, $18.00. All Hammermill Bond. Oil field legal blanks of all kinds. Cheapest prices. Guaranteed. Ables Printing Co., Terrell, Tex.

CONSUMERS' LEDGERS

We are prepared to furnish from stock standard forms of gas meter Consumers Ledgers. Sample forms and quotations on request. First class material and workmanship.

DERRICK PUBLISHING CO.
Oil City, Pa.

OIL FIELD LEGAL BLANKS—Leases, assignments, releases, township plats, gauge books, run tickets, time books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

PERSONAL STATIONERY—250 letterheads, 150 envelopes on high grade bond paper; attractive type, $3.25. The Public Letter Shop, Pan American Bldg., Tulsa, Okla.

500 LETTER HEADS, 500 envelopes; bond paper; $6.00. Write for prices on your stationery. Burnett Print Shop, Ashland, Ohio.

Read the advertisements in the Classified Wants Section every week. It will help you.

BETTER PRINTING — For less money! Write us about your printing requirements and save money. Ernest Fantus Co., 525 South Dearborn St., Chicago, Ill.

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"REAL MULTIGRAPHING"

Every job is the job with us. Direct Mail Advertising Specialties—Multigraphing, Mimeographing, Mailing Lists. Complete Mail Campaigns from you to your prospect's desk.

THE PUBLIC LETTER SHOP..
Pan-American Bldg. Tulsa, Okla.

ORCHARDS AND FARM LANDS

FARM—40 acres; Truck and Poultry land; in Missouri; price $200; terms $5 month. Box 198, Mount Vernon, Ill.

ADDRESSES WANTED

ANYONE knowing the whereabouts of Mack Turney, who was last heard of at Stone Bluff, will confer a favor by notifying Mrs. Gertrude, Kuhns, 219 Home Avenue, Avalon, Pa.

MAIL LISTS

STOCKHOLDER LISTS

Can furnish over 1,000 companies' stockholders' names and number in each, also other investors. Ask for 10-page price list.

A. F. WILLIAMS
166 W. Adams St. Chicago, Ill.

THE RESULT producing benefits of THE OIL AND GAS JOURNAL Classified Wants Section is helping the men of the industry to get the maximum good out of their equipment.

Good machinery, equipment, etc., is being kept in operation by reason of alert men buying and selling through the Classified Wants Section.

CANADIAN FIELDS

(Continued from Page 44)

the drilling here has not reached the big gas sand tapped by Royalite No. 4, at around 3,725 feet. The Vulcan Oil Co. of Vulcan, Alta., has secured territory in Section 24-20-3w5 and Section 13-20-3w5, and has made a location on the latter section and is moving a standard outfit to the field for a test. The holdings are about 1 mile north of the Royalite and are reported to have cost the company, for 40 acres, $5,000 cash, $50,000 in stock, and a 10 per cent royalty on production.

In the foothill belt, Imperial Oil, Ltd., has resumed drilling on its Rice Creek test, in the Willow Creek Field west of Nanton. Drilling has also been resumed at 3,280 feet on the Imperial Oil, Ltd., Coalspur No. 2, in the Coalspur area, west of Edmonton. The Coalspur test has encountered some gas, which is being used for drilling.

Negotiations with Australian capital looking to a renewal of operations in the Quarantine Reserve Reserve area, near Coutts, appear to have definitely fallen through, the Australians having failed to close their option on certain leases and unfinished tests. A meeting of the shareholders of the Coutts-Sweetgrass Oils, Ltd., is being held in Calgary to arrange for winding up the affairs of the company. The Coutts-Sweetgrass Oils drilled the McLean-Mitchell test, the pioneer well in the Quarantine Reserve area, in an effort to tap a supposed northward extension of the Kevin-Sunburst Field; but though the test was carried to 2,800 feet and some showings of oil and gas encountered, no commercial production was secured, and water troubles eventually forced the operators to discontinue drilling.

Irma Wainwright Field

In the Irma-Wainwright Field, east central Alberta, it is reported that British Petroleums, Ltd., will drill another well offsetting No. 3, where some oil showings were encountered. No. 3 will be carried deeper for commercial production. The pumping equipment for No. 4 has arrived, and a capacity test will soon be started of this well, whose production has been estimated at 200 bbls. a day or better.

The Mutual Oil Co. of Vancouver, B. C. has secured territory in the Irma-Wainwright Field north of Wainwright and about 3 miles from the British Petroleums, Ltd. group of wells. Development will be carried on upon a one-eighth royalty basis, the first test to be started by August, and drilling continued until each of 16 subdivisions has been separately tested.

In the Many Islands Lake Field, northeast of Medicine Hat, drilling has been resumed on the Community Oil Wells, Ltd., test, which has been straightened to a depth of 2,000 feet. F. H. Stover and three of the drillers working on this well were badly burned a few days ago in a gas explosion but it is expected work will not be seriously delayed.

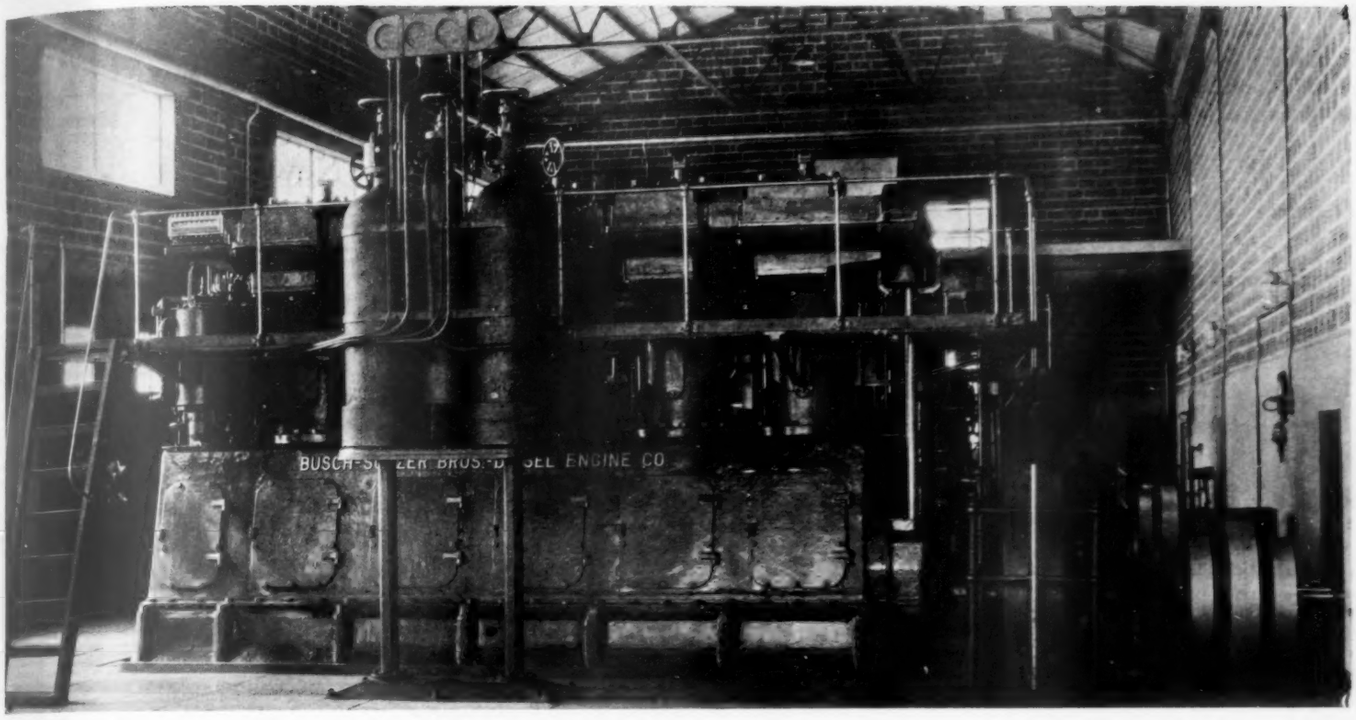
Canadian Western Natural Gas Co. has completed the laying of a new 6-inch line to supply Macleod from the main Bow Island-Calgary line, replacing the line washed out by the floods.

SHIPMENTS FROM GULF SHOW VERY SMALL GAIN

HOUSTON, Tex., May 11. — Incomplete reports indicate very small changes in the water shipments of refinery products and crude from Gulf ports during April compared with March. The following table gives the totals of refined and crude from some of the heaviest shippers, whose reports have been received:

Company—	April Bbls.	March Bbls.
The Texas Co.	1,862,624	1,962,250
Gulf Refining Co.	2,475,474	2,313,615
Humble Oil & Ref. Co.	*2,666,914	2,313,946
United Central Corp.	† 350,444	483,849
Pure Oil Co.	1,055,043	1,033,333

*All crude.
†127,544 bbls. consigned to Atlantic Refining Co., Philadelphia, and 222,900 bbls to Beacon Oil Co., Boston, shipped from Luling Field in tank cars and loaded on tankers at United Central Corp.'s docks at Pasadena on the Houston ship channel.



ON THE SINCLAIR PIPE LINE FROM TEAPOT DOME THERE ARE 10—500 B. H. P. BUSCH-SULZER DIESELS LIKE THE ABOVE

Our Factory Is Close to the Oil Fields. We Can Make Short Deliveries and Keep Our Shipping Promises

BUSCH-SULZER BROS.-DIESEL ENGINE COMPANY, ST. LOUIS, MISSOURI

A gas cooler that saves space—labor—operating cost

The G-R Vaneflo Gas Cooler

can be operated as an inter-, after-, or pre-cooler for casinghead gas and is especially adapted to absorption and compression type natural gasoline plants.

This cooler saves space because its counter-current flow of gas and water, high rate of heat transfer, and the twin design in which it can be furnished result in the most compact construction on the market.

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O&GJ 5-14-25

Petroleum Securities Quiet But Firm

Failed to Share in the Activity and Strength of the General Stock Market. Humble Reaches New High; Some New Lows

By N. O. Fanning
Room 543, No. 30 Church St., New York

NEW YORK, May 11.—Oil stocks were quiet but firm during the past week, failing to share in the activity and strength of the general securities markets. The only features were the making of a new high record by the Humble Oil and Refining Co. above 50 and the falling to new lows of several of the Standard Oil pipe line stocks.

Standard Oil Co. of New York

The report of Standard Oil Co. of New York, for year ended December 31, 1924, shows net profit of $22,020,042 after taxes, depreciation, interest, etc., equivalent to $2.42 a share (par $25) earned on $227,535,300 capital stock. This compares with $14,963,338 or $1.66 a share on $225,324,000 stock outstanding in 1923. After payment of dividends, surplus was $9,329,516 against $2,361,593 in previous year.

Consolidated income account for 1924 compares as follows:

	1924	1923
Net after tax	$ 38,671,196	$ 30,827,578
Dep. and in. res.	13,340,600	12,464,240
Det. int.	3,310,554	3,400,000
Net profit	$ 22,020,042	$ 14,963,338
Divs.	12,690,526	12,601,745
Surplus	$ 9,329,516	$ 2,361,593
P. & L. Surplus	$116,321,195	$106,027,134

Consolidated balance sheet of Standard Oil Co. of New York as of December 31, 1924, compares as follows:

Assets

	1924	1923
†Real est. plant, etc.	$139,065,498	$132,892,740
Investments	132,992,528	128,638,067
Def. assessments	3,300,911	2,356,468
Cash	6,031,753	3,265,561
Inventor	100,334,500	88,003,916
Govt. Sec.		33,543,265
Accts. & notes rec.	24,482,414	29,921,410
Total	$406,211,604	$418,621,427

Liabilities

Capital stock	*$227,635,300	$225,324,650
Debentures	20,000,000	50,000,000
Ins. res. etc.	11,329,025	9,870,452
Def. cred	2,176,954	2,267,843
Tax pay	4,991,052	2,998,993
Accts. pay	23,858,078	22,142,355
Surplus	116,321,195	106,027,134
Total	$406,211,604	$418,621,427

*Par $25.
†After depreciation.

Shell Union Oil Corp.

The annual report of the Shell Union Oil Corp. for 1924, including the company's interest in subsidiary organizations, shows gross income of $50,984,588. After all expenses, depletion and depreciation reserves and allowing for abandoned wells the company reported net earnings of $24,924,072. These totals compare with gross income of $74,274,426 and net earnings of $17,083,083 in 1923.

The balance sheet at the close of 1924 showed that the company had a net working capital of $48,211,771. As a result of the sale of the stock of the Union Oil Co. of California, the company found itself with a huge supply of cash on hand, and consequently it developed into a lender of money. On December 31, 1924, it had $28,500,000 outstanding in demand and time loans. The position of the company in regard to current assets and current liabilities, compared with the previous year follows:

Current Assets—	1924	1923
Inventories	$14,455,737	$15,981,652
Materials and supplies	4,751,282	4,907,926
Accts and notes rec.	6,023,343	
Time and demand loans	28,500,00	
Cash on hand	2,153,994	1,834,652
Total	$55,884,356	$22,724,230
Current Liabilities—		
Bills pay. and tax res.	7,528,957	5,336,966
Pref. dividends	143,628	150,000
Notes payable		345,571
Total	$ 7,672,585	$ 5,832,537

The company was producing oil at the rate of 91,630 bbls. daily at the end of 1924, against 106,656 bbls. at the end of 1923.

Tide Water Oil Co.

Stockholders of the Tide Water Oil Co. have approved the plan to reduce the par value of the stock from $100 to $25 per share and to issue four $25 par shares for each $100 par share outstanding. It is reported that the Standard Oil Co. of New Jersey controls a majority of the stock of Tide Water Oil Co. This has not been confirmed.

Pennok Oil Corp.

The Pennok Oil Corp. reports for the quarter ended March 31, 1925, net income of $456,547 after interest, depletion, depreciation and Federal taxes. This is equivalent to $3.04 per share on the outstanding 150,000 no par value shares. Profit does not include $471,716, equal to $3.15 per share additional, realized by the sale of crude in February. This was stored oil taken over from Pennok Oil which was liquidated in December, by Pennok Oil Corp. at its formation at a low price and sold in February when crude oil was higher.

Panhandle Producing

The report of the Panhandle Producing & Refining Co. for the quarter ended March 31, 1925, shows net income of $182,923 after taxes and deductions but before reserves, against $186,635 in the first quarter of 1924.

Mexican Seaboard Oil

The Mexican Seaboard Oil Co. and International Petroleum Co. for the year ended December 31, 1924, report combined net income of $2,681,142 after interest, depreciation, etc., but before providing for depletion reserve, equivalent to $2.83 per share earned on 945,939 shares of no par value capital stock outstanding, against a deficit of $708,041 in 1923.

Pure Oil Co.

The Pure Oil Co. reports for the year ended March 31, 1925, net income of $9,781,284, after interest, Federal taxes, depreciation, depletion, etc., equivalent after preferred dividends to $2.83 per share (par $25) earned on $71,504,900 common stock. This compares with $10,686,000 or $3.22 per share, on $70,091,425 common stock outstanding in the previous year.

The consolidated income account for the year ended March 31, 1925, compares with the preceding 12 months as follows:

	1925	1924
Gross earnings	$104,397,802	$87,432,451
Exp. fed. taxes, etc.	84,696,395	68,250,531
Oper. earnings	$ 19,700,908	$19,181,920
Adjustments	771,577	939,491
Interest, etc.	1,671,019	900,251
Deprec., deple., etc.	7,477,028	6,490,180
Net income	$ 9,781,284	$10,686,000
Preferred dividends	1,668,890	1,667,631
Common dividends	4,263,591	4,544,631
Surplus	$ 3,848,803	$ 4,473,437

The consolidate balance sheet of the Pure Oil Co. and subsidiaries as of March 31, 1925, compares with March 31, 1924, as follows:

Assets

	1925	1924
Property, plant and equipment	$178,246,438	$149,218,261
Other investments.	2,987,927	20,582,651
Stock in Treas.	316,00	316,000
Cash	3,198,614	8,631,451
Marketable Sec.	19,331	69,062
Accounts Rec.	5,192,619	5,330,962
Notes receivable	456,427	3,166,479
Stocks crude & refined oil	22,142,877	19,410,274
Materials & supplies	3,578,591	3,901,591
Deferred charges	1,679,123	1,981,742
Total	$217,809,947	$211,490,556

Liabilities

Preferred stock	$ 23,000,000	$ 23,000,000
Common stock	*71,504,900	70,091,425
Moore Oil pfd.	800,000	800,000
Funded debt	20,813,500	25,054,000
Accounts payable	2,841,778	2,297,550
Notes payable	9,100,000	7,375,190
Accrued taxes	460,667	283,231
Accrued interest	355,240	417,544
Comp. ins. res.	166,550	
Deprec. & depletion	35,585,094	29,698,916
Other reserves	53,677	192,371
Surplus	53,128,541	49,279,730
Total	$217,809,947	$211,490,556

*Par $25.

Earnings do not include any revenues from Humphrey-Boyd Oil Co. producing properties in the Wortham Field of Texas, which were purchased shortly after the close of the fiscal year.

Oklahoma Natural Gas Co.

Oklahoma Natural Gas Co. reports for year ended December 31, 1924, net income of $2,014,123 after expenses and interest, equivalent to $3.52 a share (par $25) earned on outstanding 572,000 shares capital stock against $1,362,784 or $2.38 a share in 1923.

Income account for 1924 compares as follows:

	1924	1923
Gross	$5,487,530	$5,020,520
Expenses	3,440,437	3,602,311
Operating profit	$2,047,093	$1,418,211
Interest	32,970	55,430
Net income	$2,014,123	$1,362,781
Dividends W	1,142,881	642,875
Surplus	$ 871,242	$ 719,906

Salt Creek Producers

Net earnings of the Salt Creek Producers Association, Inc., in the year ended December 31, 1924, after deduction of Government, State and other royalties, together with development expenses, was $6,262,220, equivalent to $4.18 a share on the outstanding stock. This compares with earnings in 1923 of $6,888,490, equivalent to $4.60 a share. During the year dividends totaling $2,918,858 were paid, the actual distribution per share being $1.80. The balance of earnings totaling $3,343,371 was added to surplus, bringing that item up to $19,214,546, a gain over 1923 of $5,429,419.

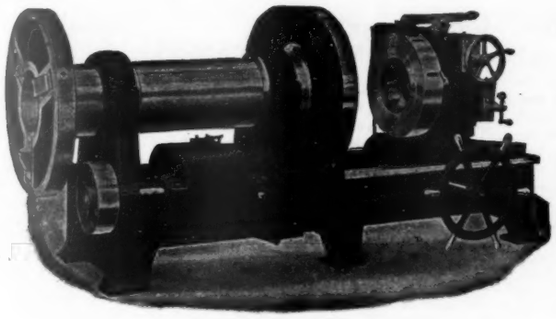
NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	†Dividends Rate	Closing Quot. May 11	May 4	1925 High	1925 Low	1924 High	1924 Low	1923 High	1923 Low
American Republics	..	..	*40⅛	*53	66¼	48	48	25	..	..
Associated Oil	25	6	36	35⅞	39½	32	34⅝	27⅝	29¼	29½
Atlantic Ref. com.	100	..	106	105¼	117½	95⅛	140⅛	78⅛	160	98⅜
Barnsdall "A"	25	..	22⅛	22⅜	28⅜	21	22¼	14	37	9⅞
California Pet. com.	25	7	29⅛	30	32⅞	23⅞	29	19⅜	28½	17½
General Am. Tank	..	†3	*47⅛	45⅝	58⅛	45	53	35½	71⅝	40
General Petroleum	25	8	51½	52⅛	57½	42	45	38⅝	..	..
Houston Oil	100	..	62	61½	85	60⅝	82½	61	78	40⅜
Independent Oil & Gas	..	†1	26⅜	26¼	33⅛	13½	16¼	5⅜	11¼	3⅜
Indian Refining	10	..	8	*8¼	10⅜	5½	7	3⅜	8½	4
Louisiana Oil	50	..	17⅛	17⅜	23¾	14⅝	..	..	..	..
Maracaibo	..	..	*27	27	35½	25½	37½	25⅝	28¼	16
Marland	..	..	40⅜	39	46¼	32⅝	42	29	59⅝	18½
Mexican Seaboard	..	..	16⅛	17	22⅛	11⅛	26⅜	14⅛	19⅜	5⅜
Mid-Continent Pet.	..	..	28¼	28⅝	35⅝	26⅛	40¼	22⅝	62¼	23⅜
National Supply	50	6	62⅝	63½	71	61⅜	72½	54	68	54
Pacific Oil	50	†2	66½	57⅞	65¼	52¼	58¼	45	52½	31½
Pan American com.	20	12	76½	76⅝	82⅜	65	65	44¼	93½	53
Phillips Petroleum	..	†2	40½	40	46⅝	36⅛	42¾	28⅛	69⅜	19¾
Producers & Refiners	50	..	24	23½	32⅝	22	43½	29⅜	58¼	17½
Pure Oil com.	..	6	28	27	33⅜	25½	30¼	20	32	16¼
Royal Dutch, N. Y. sh.	13.40	4.42½	49⅜	49⅛	57⅛	48¼	59½	40⅜	55⅛	40½
Shell Transport	10	3.30	*40⅛	*40½	45⅝	41	42	32	41¼	29½
Shell Union com.	..	†1	24⅛	24⅝	28⅜	22½	22⅛	15⅝	19¼	12⅜
Simms Petroleum	10	..	23	23½	26⅜	19½	24	10⅜	16⅜	6½
Sinclair Consolidated com.	..	..	19	19⅛	24⅞	17	27⅛	15	39⅜	16
Skelly Oil	25	..	26⅛	25	30½	21⅜	29	17⅛	35	12½
Standard of California	25	8	58½	58⅝	67¼	56⅝	68⅛	55½	64½	47½
Standard of N. J. com.	25	4	43¼	42¾	47⅛	38⅜	42⅛	33	44¼	30⅞
Superior Oil	6	..	4⅞	4	6⅛	4	8⅛	2⅝	6⅜	2
The Texas Co.	25	12	44⅞	44⅞	49	42¾	45⅝	37¾	62⅞	34⅝
Texas Pacific Coal & Oil	10	..	14⅝	15⅛	23⅜	11½	15⅛	8¼	24¾	5½
Tide Water Oil	100	4	138¾	138⅝	152	122	151	116¼	144	94
Transcontinental	..	..	5½	4	5¼	3⅞	6¼	3⅜	14½	1¼
Union Oil of California	25	7.2	37	37⅛	43⅝	36¼	39	35½	..	..
Union Tank com.	100	5	*124	122½	127⅝	118½	132⅝	94	114	106
White Eagle Oil & Ref.	..	2¾	27	26½	31⅝	25⅝	29⅞	23⅛	30⅝	20½
Standard Oil Stocks										
Anglo-American Oil	£1	25	25⅜	24⅞	26¼	18	18⅝	14⅜	19⅜	13½
Borne Scrymser	100	12	*200	205	240	212	264	150	153	116
Buckeye Pipe Line	50	14	59½	59	73	59¼	85½	51	94	57½
Chesebrough Mfg. Co.	25	14	*56	64⅞	70	48¼	52⅛	29¼	340	205
Crescent Pipe Line	25	..	10½	11	15⅝	10⅛	20	11¼	25	15
Cumberland Pipe line	100	13	145½	145	150	128	148	109	117	80
Eureka Pipe Line	100	8	*77	78	96	80	105	74	117⅛	87
Galena Signal com.	100	5	55	54	68½	55	69⅜	52⅛	78	56
Humble Oil & Refning	25	4.8	50¼	49⅝	50¼	42¼	43⅜	36	41	28⅛
Illinois Pipe Line	100	12	144½	143	154½	127	161	123	171	115
Imperial Oil, Ltd.	..	†2	30	30	34⅛	27⅝	119	99	123	92
Indiana Pipe Line	50	8	72	71	84	70	100	66	103	81
International Pet. Co.	100	x50	23⅜	24½	28⅜	22¼	24⅜	16⅜	24⅜	13¼
Magnolia Petroleum Co.	100	4.5	141	135½	159	131½	162	124	166	123
National Transit	12.50	16	*22	22	25½	22⅛	25⅞	20⅝	29	19½
New York Transit	100	3	60	*62	79	64¼	97	54½	138	70
Northern Pipe Line	100	6	*83	82½	88	80	107½	72	111	96
Ohio Oil Co.	25	8	65	64¼	75¼	60	79⅛	53	85⅜	48¾
Pen.-Mex. Fuel	25	..	36	36	44	35⅜	45⅝	27	45	10½
Prairie Oil & Gas	25	†2	54	55	65½	50¼	269	193	272	152
Prairie Pipe Line	100	8	121	121	126	106	111	100	117	93
Solar Refining Co.	100	15	*212	217	259	200	240	170	212	161
South Penn Oil	100	..	167	168	197	139	176	117	196	100
South West Pa. Line	100	6	*67	*67	84	65	89	68	89	66
Southern Pipe Line	100	4	*81⅛	82	103	81⅛	100	80⅛	116	87
Standard of Indiana	25	10	64½	63⅞	70	59½	69⅝	54½	69⅞	48½
Standard of Kansas	25	..	33½	31½	46	31	50⅛	32½	56¼	36½
Standard of Kentucky	25	16	118⅞	118½	124½	114¾	121⅛	101	109½	76
Standard of Nebraska	100	20	245	241	270	244	262	198	280	186
Standard of New York	25	5.6	43½	43½	48⅝	41¼	48	37¾	49¾	35½
Standard of Ohio com.	100	10	349	*347	369	338	337½	277	320	270
Swan & Finch com.	25	..	*17	*17	27	16	28	20	..	..
Vacuum Oil	25	†3.75	87⅝	87	96¼	80⅛	83¼	56½	55½	40
Washington Oil	10	..	*30	*30	30½	30	29	25	28	20¼
Miscellaneous Stocks										
Cities Service bks. sh	‡	..	18⅝	17⅜	21	17	19	13¼	18½	12⅝
Continental	10	10	25	25⅛	31⅜	21⅞	..	..	..	..
Gulf Oil Corp. of Pa.	25	6	64⅛	64⅞	71	63⅛	67⅝	56	68¼	45¾

*Bid, no sales. †In dollars. ‡Six per cent cash and 6 per cent scrip annually. ‖The figures in this column are kept up to date as far as possible, but are not guaranteed. xCents per share.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

May 11	54.36	Apr. 6	54.63	Mar. 2	59.56	
May 4	54.33	Mar. 30	51.28	Feb. 23	58.02	
Apr. 27	52.70	Mar. 23	52.90	Feb. 16	55.96	
Apr. 20	52.96	Mar. 16	54.14	Feb. 9	58.39	
Apr. 13	53.49	Mar. 9	57.73	Feb. 2	59.24	



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REFINING AND MARKETING

COOPERATIVE BUYING CORPORATION FORMED

OKLAHOMA CITY, Okla., May 11.—Another evidence of the movement in Oklahoma among oil jobbers toward co-operative buying of oil products is contained in an application to sell stock filed with the State Issues Commission by the Oklahoma Oil Marketers', Inc., of Enid, with a capital of $25,000 of which C. M. Gentry of Enid is president and general manager.

The organization was perfected by a number of oil jobbers of western Oklahoma "to buy and sell petroleum products through stockholders and operate a general clearing house at Enid through which stockholders will buy supplies."

W. W. Blackburn of the Blackburn Oil Co. at Elk City, is secretary and J. J. Miller, of Blackwell, is treasurer. Among directors are C. F. Sloane, of the Sloane Oil Co., of Oklahoma City, T. M. Tackett, of Clinton, W. O. Crow, of Custer City, and Terry Stuart, of Hennessey.

GALENA'S NEW CONNECTIONS

HOUSTON, Tex., May 11.—The Galena-Signal Oil Co. of Texas is laying 5 miles of railroad track to connect its refinery at Galena on the channel and its tank farm at Nortsworthy, with the tracks of the Houston Belt and Terminal railway. This will give the refinery connections with every railroad entering Houston and save switching charges. The Galena-Signal Co. owns docks, together with a fleet of tankers and barges, shipping to the Atlantic Coast and to foreign ports. The company has terminals, tanks and distributing station at Dublin, Ireland, being the only American oil company represented in the new Free State.

REFINERY TO RESUME

HOUSTON, Tex., May 11.—Plans are being made to resume operation of the 5,000-bbl. refinery of the United Central Oil Corp. within 60 days, it is reported. The plant, which has been idle for a year, formerly was owned by the White Oil Corp. The United Central Oil Corp. recently acquired producing properties in the Webb County pools, formerly owned by the Two Republic Co. and the Wheatley Oil Co. The crude will be shipped to Pasadena in tank cars.

SINCLAIR ENTERS ERIE, PA.

ERIE, Pa., May 11.—Plans of the Sinclair Refining Co. to distribute gasoline and petroleum products in this district were revealed when the company applied to the State Fire Marshal for a permit to build a warehouse, a garage and 87,000-bbl. tankage here in the near future. Agents of the company have been here several weeks obtaining information concerning the fire regulations.

PENNZOIL'S BUFFALO PLANT

BUFFALO, N. Y., May 11.—The new offices, compounding plant and storage plant of the Pennzoil Co. are nearing completion and will be ready for occupancy by the last of May. The new plant, which is necessitated by the large increase in business, is of the most modern, fireproof construction. The company also will operate a service station at the plant.

DEALERS TO KEEP RECORDS

MILWAUKEE, Wis., May 11.—Under a new ruling all dealers selling or delivering gasoline in Wisconsin must keep a public record of the prices charged by him for each kind or kinds of gasoline to every class of business. The regulation was established by the bureau of markets.

GASOLINE AND INCOME TAXES

WASHINGTON, D. C., May 11.—The tax on motor vehicle fuel imposed by the States of Maryland and Virginia and the District of Columbia is deductible from income taxes only by the dealer or distributor against whom the motor tax is levied and by whom it is paid, according to a ruling of the Commissioner of Internal Revenue.

The tax is a part of the expenses of the business or of the cost of the fuel sold, and can not be deducted separately as a tax item, but may be deducted as a part of the business expenses, or treated as a part of the cost of the fuel sold.

COLEMAN-NELSON PLAN EXPANSION PROGRAM

Plans for improvements and expansions to the Coleman-Nelson refinery at West Tulsa have been completed. Special equipment and stills to enable the plant to manufacture cylinder stocks have been ordered and will be installed as soon as they arrive.

The refinery resumed operation the past week after an extensive shutdown. It will continue to operate indefinitely as long as the market conditions are favorable, officials of the company announced. It is running between 1,000 and 1,500 bbls. of crude daily.

PHILLIPS PETROLEUM BUILDS

BARTLESVILLE, Okla. May 11.—Recent purchases and expansions of natural gasoline plants by the Phillips Petroleum Co., will add more than 50,000 gallons daily to the company's output. The company has purchased three plants in north Texas from Roeser and Pendleton, and is building a new plant at Quay, Okla. It also is increasing the capacity of its Wewoka plant 50 per cent through a new supply from stations which are being installed and is adding two new stations to its plant in 11-11. Okfuskee County.

NAVY'S GASOLINE NEEDS

WASHINGTON, D. C., May 11.—For the six months from July 1, 1925 to December 31, 1925, the United States Navy will require 2,540,700 gallons of United States Motor gasoline, 1,483,500 gallons of domestic aviation gasoline and 27,500 gallons of engine distillate. It is for this amount that the Navy now is receiving bids. The bids will be open May 17.

BUYS HAWKEYE STATIONS

SIOUX CITY, Iowa, May 9.—Pollard Oil Co., of Sioux City, has purchased two stations from the Hawkeye Oil Co., and will operate them in connection with its stations at Sioux City, Iowa, and South Sioux City, Nebr.

OIL COUNTRY BUYERS GROUP

MILWAUKEE, Wis., May 11.—A conference of the "oil country group buyers'" section, will be one of the features of the National Association of Purchasing Agents to be held here May 25 to 28, inclusive. The conference will be held the first day of the convention. George C. Pohler, purchaser of the Mid-Continent Petroleum Corp., will preside.

NEW TANKS AT TEXAS CITY

TEXAS CITY, Tex., May 11.—Two 80,000-bbl. steel tanks have been completed by the Texas-Gulf Sulphur Co. at Texas City. The tanks will be used to store fuel oil, which is furnished by the Swiftsure Petroleum Co., from its topping plant at Texas City. The fuel is sent in tank cars to the Sulphur company's plant at Gulf, Matagorda County.

BIG KEROSENE SALE FOUND IN ARKANSAS

The old fashioned lamp wick has not passed beyond the period of its usefulness in Arkansas, despite the fact that electricity has spread into the farthermost reaches of the State. The oil inspection bureau at Little Rock reports that in April 2,563,500 gallons of kerosene were inspected. This is larger by nearly 500,000 gallons than the average month in Oklahoma, yet the total gallons of gasoline inspected for that month, 6,101,500 gallons, is only about half of the average month in Oklahoma. In short, Arkansas uses one-half the amount of gasoline and nearly twice the number of lamp wicks, in proportion to population, as are used in Oklahoma.

TRANSATLANTIC PLANT BEING DISMANTLED

HOUSTON, Tex. , May. 11.—After being shut down for two years, the Transatlantic Oil Refining Co., plant at Houston is being dismantled. It was sold recently by the executors of the Hamilton estate and will be junked.

The plant was erected 20 years ago by the Houston Oil Co., and was operated for a time making lubricating stocks. It was idle for many years during the war until it was obtained by Hugh Hamilton and associates, who repaired it and operated it until about two years ago.

TO TESTS STATE'S STATIONS

PIERRE, S. D., May 11.—To determine the cost of operating service stations and a "fair" margin of profit for gasoline Governor Carl Gunderson of South Dakota has started a 30 days' test of the oil stations owned and operated by the State. The costs will be compared with figures submitted to him by the independent oil jobbers of the State who assembled at his invitation in Pierre April 14. After the 30 days' test, Governor Gunderson proposed to stop running the State stations and let the State "control" law enacted by the last legislature become operative.

REPRIEVE FOR CURB PUMPS

OKLAHOMA CITY, OKLA., May 11—As a result of a storm of protest over the new ordinance which required all gasoline and oil curb pumps to be removed by May 1, city commissioners have postponed the date the ruling becomes effective until January 1, 1926. Curb pump licenses expired May 1 so fees now are being collected for operation until the end of the year.

PROTEST INSPECTION FEES

CHICAGO, May 11.—Agitation is growing in Illinois oil circles against high oil inspection fees and a movement may be started, enlisting oil men of all States, to make a concerted protest.

NO COLORADO TAX RAISE

DENVER, Colo., May 11.—Colorado motorists still are paying only 2 cents gasoline tax as a result of the legislature adjourning without taking action on the proposed bill to increase the levy from 2 to 4 cents.

ADD TO ROOT REFINERY

EL DORADO, Ark., May 9.—A new Dubbs cracking unit is being installed at the Root refinery near here to handle the Smackover heavy oil. The unit will be completed and in operation by June 15. More than $250,000 is being spent in improvements at the refinery and in a pipe line project.

INSPECTING TEXAS TERMINALS

HOUSTON, Tex., May 11.—W. S. Farish, president of the Humble Oil & Refining Co., James Anderson, vice president in charge of transportation, of the Humble; W. H. McFadden, general manager of the Marland Oil & Refining Co., and E. W. Marland, Jr., have completed an inspection of terminal facilities at Texas City and Baytown. The crude from the Big Lake Field in Reagan County will be run though the Humble lines to these terminals, which will be increased as made necessary. The facilities are sufficient for the present.

EXPANDING PLANT OF PARAGON REFINING CO.

TOLEDO, Ohio, May 9.—The Paragon Refining Co. is rapidly completing the $500,000 construction program authorized by directors of the company immediately after the disastrous fire which occurred at the local plant about two months ago. When the improvement program is completed the plant which was built 37 years ago will be one of the most modern in the State.

The agitators which were burned have already been replaced with a 5,000-bbl. continuous treating plant. A tube heater with dephlegmating equipment has also been installed. This equipment which is now operating makes four cuts of benzine, gas oil, wax distillate and marketable fuel oil.

Bubble towers are also being installed on the old shell stills. It is expected that this equipment will increase the crude capacity of the plant.

Another feature of the plant will be the installation of motors for all pumping. Special precautions are being taken to prevent fires in the installation of all equipment. Additions are being made to the storage capacity of the plant which at the present time totals 700,000 bbls.

The board of directors has under consideration at the present time the installation of a well known cracking process. It is expected the decision in regard to this installation will be announced within a few days.

In addition to the plant program the company is constantly adding to its marketing facilities. Additional stations were purchased from a Toledo jobbing concern during the past week. The company now operates 10 stations. M. R. Singleton was recently appointed general manager of the company.

MEXICO'S GASOLINE REVENUE

MEXICO CITY, May 11.—More than 4,000,000 pesos, or approximately $2,000,000 United States money, will be available for building roads in Mexico from the nex tax levied on domestic gasoline consumption. The new tax, which went into effect April 1, 1925, amounts to three centavos a liter, the equivalent in the United States to a little more than $0.055 a gallon.

TAKES OVER LA PORE PLANT

HOUSTON, Tex., May 11.—The La Pore Oil & Refining Co.'s plant at Morgan's Point on the Houston ship channel has been taken over by the Deep Water refineries which will make charging stocks for the new process oils now being manufactured in the Deep Water refinery at Houston.

FORM ARROW PETROLEUM CO.

FOREST PARK, Ill., May 9.—The Arrow Petroleum Co. has been incorporated at Forest Park to deal in petroleum products. It is capitalized at $60,000 and was formed by O. M. Barr, F. S. Collins, Cyrus S. Collins, Jr., and F. J. Healey.

Contamination of Crankcase Oils

Diluent Derived from Fuel Most Serious Reducing Viscosity. Road Dust and Water Factors. Changes in Oil Itself.

By T. S. Sligh, Jr.,*
Physicist, Bureau of Standards

In the selection of motor lubricants the prime consideration is that of viscosity for viscosity is the property which primarily determines the initial suitability of an oil for a particular service.

It is known that the viscosity at the operating temperature must be adequate to keep the bearing surfaces separated under the operating conditions of speed, bearing pressure and bearing clearances.

A viscosity which is too low will permit metal to metal contact, resulting in seizure or excessive wear of the bearings. Obviously one would not use a sewing machine or typewriter oil to lubricate an automobile engine. On the other hand, the power lost in the bearing surfaces increases as the viscosity of the oil is increased beyond the necessary minimum value but it is customary to allow for ignorance regarding the exact conditions which may arise in operation and for the imperfections in bearing surfaces by the use of oils having viscosities higher than the minimum permissible value. A moderate power loss in the bearings is accepted as the price of the factor of safety so introduced.

Experiments with journal friction machines and laboratory tests with engines indicate that very much lighter oils than those ordinarily specified could be used provided optimum operating conditions were maintained.

There is a very real danger, however, in carrying the use of high viscosity oils to an extreme as here the problem of getting the oil to the bearing surfaces becomes more difficult. Thus, if the viscosity of the oil is so great, as for instance in starting a cold motor lubricated with very heavy oil, that the oil cannot be properly fed to the bearings by the lubricating mechanism, wear and possibly seizure may occur on account of lack of oil. No one would consider that a transmission oil or a gear compound would be a safe lubricant to use in the crank case.

Viscosity Principal Point

Viscosity then is the principal property which is to be considered in the choice of an oil. However, no particular kind of oil has a monopoly of any particular viscosity as almost any required viscosity can be produced in almost any kind or quality of petroleum lubricating oil. The point to be noted is that an oil should not be rated as inherently good or bad on account of its viscosity. The burden of choice of suitable viscosity rests with the user.

The basis on which the proper viscosity is chosen for any particular job is not well defined. However, in general a wide range of viscosity exists between incipient failure of the lubricating films due to low viscosity and incipient failure of the lubricating system due to high viscosity. In the intermediate operating range a compromise between factor of safety and power loss in bearings is usually made.

Having decided—by some means—upon the proper viscosity the next requirement is that the oil be free from substances which are detrimental to the engine. These substances may be impurities of various kinds, such as acids, sedimentary material and the like.

If the oil is of the proper viscosity for the required service and is clean, it is initially suitable, which means that it should render satisfactory service provided its characteristics do not change for the worse in use. With a suitable oil the next question is that of durability, that is, how long will it continue to give satisfactory service.

The oil may be rendered unsatisfactory by external contamination or by some change in the oil due to its inherent instability under the conditions of service. External contamination is obviously a matter of operating conditions and failure due to this cause is not properly chargeable to the oil.

Need for Replacement

It is common knowledge that the oil in the crankcase of an automobile loses viscosity in service and after a longer or shorter period of service must be drained and replaced by fresh oil if satisfactory lubrication is to be maintained.

The necessity for this replacement is dictated by the decrease in viscosity due to fuel dilution, together with the accumulation of sediment such as road dust, carbon and abraded metal.

The loss of viscosity or the "thinning out" of the oil is not due to any defect in the oil but is caused by dilution of the oil by the less volatile portions of the fuel. The process of dilution has been described in detail elsewhere[1] and is somewhat as follows:

The incoming charge of fuel comes into contact with the film of lubricating oil on the cylinder walls and if the temperature of this film is sufficiently low some of the less volatile portions of the fuel are taken up. The rate at which the fuel is taken up by the oil film on the exposed surfaces is largely determined by the volatility characteristics of the fuel and the temperature of the oil film, the rate is greater with the less volatile fuels and colder cylinder walls. In other words, the change of fuel tends to come into a state of vapor pressure equilibrium with its surroundings. Some of the diluent will remain in the oil film and eventually reach the crankcase and in succeeding cycles this diluted oil will form the film on the cylinder walls. The rate of increase of dilution will depend on the rate at which diluent leaves this film as well as upon the rate at which diluent is added. An appreciable amount of diluent is also probably eliminated through the breathing action of the crankcase.

Increased by Cold

Experiments have corroborated this theory and show that the rate of dilution of the oil is increased by a cold engine, by low water jacket temperatures, and by a rich mixture. Excessive use of the choke is a fruitful source of dilution.

It will be evident that the usual conditions of winter driving, with short runs, cold engine, and a relatively large number of starts with a cold engine, are much more conducive to dilution than those of the warmer months, where longer runs, hotter engines and a relatively smaller number of cold starts are the rule.

As a consequence of crankcase dilution, the viscosity, which was the essential characteristic of the oil, is greatly decreased and the resulting thin mixture is necessarily less satisfactory as a lubricant than the original oil. The diluted oil works past the piston more readily and this results in increased oil consumption, excessive formation of carbon and fouling of the spark plugs. The diluted oil cannot maintain a lubricating film under the same bearing pressures as can the oil of higher viscosity and consequently excessive wear and even seizure of bearings may ensue.

It appears that under ordinary conditions of summer driving the dilutions of from 10 to 20 per cent are the rule while dilutions of 20 to 50 per cent may prevail under winter conditions. The effect of dilution upon the viscosity of an oil is approximately as follows:

Effect of Dilution on Viscosity

	Vis. at 100°F.	—Seconds Saybolt—		
New Oil—	300 Sec.	600	1000	4000
10% dil.	168	315	500	1450
20% dil.	115	178	250	510
30% dil.	71	95	125	200
40% dil.	44	54	63	83
50% dil.	...	...	32	45

Dilution, which is an external contaminant, is seen to produce results which will render an oil absolutely unfit for satisfactory service and hence should be avoided so far as possible. The following statements indicate means of reducing dilution.

Keep the fuel mixture as lean as is consistent with good service. Avoid excessive use of the choke. Shorten the warming up period as much as possible and keep the operating temperature of the engine high by the use of a hood cover, radiator shutters, a water thermostat or by similar device.

A device which removes the diluent from the oil may be used.

Remember that if many short runs are made in cold weather the rate of dilution will be high and frequent replacements of the oil may be necessary.

It will be seen from the table above that the viscosity of a diluted oil depends upon the viscosity of the undiluted oil, so that the heavier oil will stand more dilution before its viscosity is reduced to the danger point.

Without considering just what viscosity may represent the permissible safe minimum the above data indicate that in view of probable starting difficulties it is hardly feasible to take care of high dilutions by the use of extremely viscous oils.

Road Dust

A second harmful external contaminant is road dust, which is drawn into the engine through the carburetor. Dust consists largely of silicates and is highly abrasive. Dust contamination may be reduced by the use of air filters or by the

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EXTERNAL CONTAMINATION OR CHANGES IN OIL RENDER LUBRICATING OILS UNFIT FOR SERVICE

Lubricating oils may be rendered unfit for service either by external contamination or by changes in the oil due to inherent characteristics.

In crankcase service the most serious external contaminant is diluent derived from the fuel and this very greatly reduces the viscosity of the oil. The resulting thin mixture may be unable to maintain a lubricating film under the operating conditions and permits "oil pumping" with the resultant fouling of spark plugs, carbon formation and excessive oil consumption.

Road dust which is drawn through the carburetor, acts as an abrasive and, especially with highly diluted oils, may cause excessive wear.

Water which is formed in the combustion of gasoline is a third contaminant and this especially in combination with the oxidation products of sulphur which is present to some extent in most fuels, may exert a very detrimental corrosive action on the engine.

These contaminants, diluent, dust and water produce very serious effects and may make an excellent oil absolutely unfit for use. These factors are not inherent characteristics of the oil and allowance must be made for their effects in rating the service utility of oils.

Lubricating oils may also deteriorate due to changes which take place in the oil itself. Oxidation seems to be one of the most serious changes which may take place and it would seem advisable to consider the resistance to oxidation in the selection of motor oils. The importance of resistance to oxidation will doubtless increase as progress is made in protecting crankcase oils from the harmful effects of diluent and dust.

Photo by Paine Studio, Washington, D. C.
T. S. Sligh, Jr.

T. S. Sligh, Jr., writer of the accompanying article, is a widely known physicist who has been connected with the Bureau of Standards, Department of Commerce, at Washington, D. C., since 1916. He has specialized in the study of lubricating oils and at present is connected with the automotive power plant section of the bureau.

Mr. Sligh graduated from Louisiana State University in 1911 and the following year received a master's degree from Pennsylvania State College. He is a member of the American Physical Society, Philosophical Society of Washington, American Society for Testing Materials, Society of Automotive Engineers.

In future articles Mr. Sligh will discuss crankcase dilution measurements and oxidation.

*Published by permission of the Director of the Bureau of Standards of the U. S. Department of Commerce.

[1]Bell, American Petroleum Institute, Vol. V, No. 75, p. 115, December, 1924.

MORE STABLE PRICE STRUCTURE IS ANTICIPATED IN CHICAGO

By J. B. Waldo

CHICAGO, May 9.—The local gasoline situation as to movement is a good call for deliveries on contracts and limited new business in the spot market. Nothing during the past week has materially changed the habit acquired by many jobbers of buying what they must have for brief periods, and not anticipating their requirements. With a price of 11 cents firmly established at the refineries, the tank wagon situation and, indeed, the price structure from crude to the cost to the consumer, would seem to be fairly well balanced. There are a great number of points in the territory where the freight is close to 2¼ cents per gallon that have a tank wagon price of approximately 18 cents. Some of these points have a price that is a little more, few any less. But the fact that gasoline is apparently approaching a more stable price structure is encouraging.

Prices for U. S. Motors gasoline have advanced until at the close of the week, the market was quoted by both the optimist and the pessimist as a 11-cent market. But some insist that the real range was 10¾ to 11 cents while others claimed a fair statement was 11 to 11¼ cents. Most of the sellers were asking 11 cents but little if any was sold at above that price. Still sales were made at 10¾ cents by marketers and in a few cases quotations were received of 10½ cents, but these were few and it is doubtful if the orders would have been entered at that price, late in the week, at least. The sale of 500 or 700 cars of gasoline is a matter of great importance, yet the Standard of Indiana in the days when it was a free buyer in the Mid-Continent Field, used to place orders for 2,000 cars for delivery within 90 days, and the usual result was that at the end of the period of delivery the refiners had another 2,000 cars ready to deliver. The more important aspect of the business is will this demand continue or is it only temporary? That no one can answer. The reports from Pittsburgh and that part of the country are of a rather weak market, due, it is stated, to the free offerings from the Atlantic Coast based on California gasoline. The general sense in the market here is that present prices will hold in this territory.

The local demand for the higher gravities has not been large but the offerings are light and these grades have participated in the advance. There is no inquiry for blends as such, it is all gasoline these days. One of the Chicago jobbers has been offering, through his stations, what he calls a 60-62 gasoline at the regular price of 20 cents and while there has been little interest shown by the industry, the company seems to be making considerable progress and is putting up quite a number of filling stations which are easily distinguished by the gaudy colorings used by the painter. The natural gasoline market has "gone crazy" to quote one of the sellers of this product and he says he would not be surprised at anything that might happen to it. The three grades, or five as it may be, are selling so closely together today that it is hard to distinguish them by price.

Kerosene and Distillates

Kerosene is selling fairly well but the prices have not advanced, just barely held their own. There seems to be plenty for the demand which continues uneven and irregular. Distillates are slow sale and easy in tone. Just what would happen if a buyer wanted a real quantity is a question. Refiners undoubtedly are giving them little attention right now.

Gas oil has had a brief period during the week when it seemed there might be an improvement in the situation but the demand did not develop at least there was no improvement in the prices which continue easy at last week's range.

Fuel Oil

Fuel oil has been under grave suspicion of the propagandist. There are so many stories told regarding the Smackover situation that the average buyer is all at sea. Some of the sellers insist that Smackover fuel should sell at 90 cents but there is little likelihood of its doing so. The Smackover situation is purely one of production right now and if the present output holds fairly steady it would seem there could be no improvement on the present market, which is 75 to 80 cents, plenty of sales being made at this range. The demand here is not above the ordinary. Refinery fuel oil is dull and if anything a little weaker as the time goes by. Strictly 24-26 refinery fuel oil has sold in 10-car lots over the month at 85 cents to consumers and yet this is the present bottom to the refinery price. It is freely offered at that price by several Group 3 refiners. Some sales have been made at 90 cents and at a little less, but there has been no really large business done here. Buyers are slow to order and are not anticipating their wants.

Lub Situation Mixed

The lubricating oil business is rather mixed. Some of the distributors report they are having an excellent business while others say their orders might be better. The concerns making quality goods are having the best of the demand right now from all that can be learned. Automobilists are demanding quality oils and they are to a great extent basing their preference on the missionary work being done by the makers of these goods. Advertising plays an important part. One reason for the success of these quality goods is that the quantity is limited compared with makes of ordinary or worse oils and the latter are meeting with great competition. The industrial demand, while bulking large, is uninteresting as the orders are placed for small lots as a rule and the competition for even the smallest orders are very keen. Refiners report a good demand for all grades and state their export business is improving right along. Eastern reports note a better tone in the cylinder stocks.

Tank Wagon Firmer.

There has been no general change in tank wagon prices in the territory of the Standard Oil Co. (Indiana) and none is expected in the early future. The advance in the refinery markets has brought about a change in the feeling and put an end to rumors of impending cuts. In fact, there is an occasional speculation as to a possible advance but under the usual conditions, this is believed to be unlikely until the refinery markets are firmly established at a better than 11-cent price for the U. S. Motors grade of gasoline. Jobbers report an excellent increase in their business for April although the first week in May has not been as good as hoped for, owing to the cool, wet weather. There is considerable price cutting over the territory, but it is not sufficient in volume to threaten the price structure as yet and stronger refinery prices will reduce the number of price cuts. The public does not look for lower prices for gasoline but there would be considerable resentment shown against any advance and doubtless the authorities, State and Municipal, in many places would take advantage of this feeling to do what they could to make it appear the cost was excessive or unwarranted. A steady situation would seem best at present.

INCREASE CAPITAL STOCK

CHICAGO, May 9.—Capital stock of the Murphy-Miles Co., Chicago fuel oil distributing firm, has been increased from $60,000 to $125,000

361,200 BBLS. A DAY FROM DEEP SAND

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to the company's No. 3 on the same lease.

Roxana Petroleum Corp.'s No. 2 Hardy Murphy, SW NW NE Section 9-16-15, sand at 2,400-10 feet, flowing 4,000 bbls.

Lion Oil Refining Co.'s No. 6-A Lawton, CWL SE NW, Section 10-16-15, sand at 2,398-2,404 feet, flowing 800 bbls.

Tidal-Osage Oil Co.'s No. 5 Vestal, NW NE SE NW Section 17-16-15, sand at 2,508-13 feet, swabbing a hole full of oil.

The Gulf Refining Co. of Louisiana's No. 16 Hardy Murphy, NW SE SW Section 4-16-15, sand at 2,341-52 feet, flowing 950 bb ls.

Woodley Petroleum Co.'s No. 1 Umsted NE SE NE NW Section 4-16-15, sand at 2,358-59 feet, flowing 2,500 bbls. through 1-inch choke.

Arkansas Fuel Co.'s No. 5 Ferguson, near SE cor. SW SW, Section 6-16-15, sand at 2,391-96 feet, swabbing a hole full of oil.

Gulf Refining Co.'s No. 4 Murphy, NE SW NW Section 8-16-15, sand at 2,379-88 feet, flowing 6,000 bbls.

Natural Gas & Petroleum Co.'s No. 2 Billyew, NW cor. Section 9-16-15, bridged around 4-inch drill pipe, total depth 2,325 feet, estimated 25,000,000 feet of gas, shut in.

Federal Petroleum Co.'s No. 9-A Lawton, SE NW SW Section 10-16-15, sand at 2,417-27 feet, flowing 2,000 bbls.

Phillips Petroleum Co.'s No. 8 Giller, NE SE SE, Section 10-16-15, sand at 2,548-50 feet, blew in heavy gas and salt water which was mudded off after which coring was started.

Standard Oil Co.'s No. 15 Umsted, SE SW SE, Section 32-15-15, sand at 2,371-87 feet, flowing 1,000 bbls.

Lyell and others' No. 8 Fee, SW SE NW, Section 3-16-15, sand at 2,365-77 feet, flowing 3,000 bbls.

The Texas Co.'s No. 6 Hayes, NE SE NE, Section 6-15-15, sand at 2,353-56 feet, flowing 3,500 bbls.

Sun Oil Co.'s No. 1 Hatfield, SW SE SE, Section 6-16-15, sand at 2,373-81 feet, flowing 1,000 bbls.

Arkansas Gas & Fuel Co.'s No. 5 Ferguson, CSL E half SW SW, Section 6-16-15, sand at 2,391-96 feet, blowing with gas 1,500 bbls. a day, 60 per cent water and 15 per cent sediment.

Natural Gas & Petroleum Co.'s No. 1 Bilyew, NE NW NW, Section 9-16-15, sand at 2,358-94 feet, flowing 10,000 bbls.

Dail and others' No. 2 LeCroy has increased from 2,500 bbls. to 7,500 bbls.

Staves Brothers' No. 1 Cook, NE SE NW, Section 16-16-15, sand at 2,426-28 feet, tested hole full of salt water; arranging to core.

Federal Petroleum Co.'s No. A-8 Lawton, NE NW SW, Section 10-16-15, sand at 2,426-45 feet, tested salt water and will plug back 10 feet and test again.

Phillips Petroleum Co.'s No. 5, CSL SE SW SW, Section 11-16-15, hole full of water at 2,416 feet.

The Natural Gas & Petroleum Co. was successful in shutting in its big gasser completed in the 2,500-foot sand last Saturday. This well, in NW of SW, Section 9-16-15, was completed at 2,565 feet and is good for 50,000,000 or 60,000,000 feet daily.

Murray & Bailey's No. B-1 Rhoten, NE SE SW NW, Section 32-15-15, tearing down without testing at total depth of 2,415 feet.

Roxana Petroleum Corp.'s No. 3 Umsted, SE NE NW NW, Section 4-16-15, sand at 2,386-2,406 feet, flowing 300 bbls. a day by heads.

Mazda Oil Corp.'s No. R-2 Lawton, SE NE SW, Section 10-16-15, sand at 2,434-43 feet, flowing 4,000 bbls., 75 per cent water.

Federal Oil Co.'s No. B-5 Lawton, NW SE SW, Section 10-16-15, sand at 2,420-29 feet, flowing 500 bbls.

Phillips Petroleum Co.'s No. 8 Giller, NE SE SE, Section 10-16-15, coring at 2,579 feet.

Unity Petroleum Co.'s No. 4 Berry, SW NW SW, Section 33-15-15, sand at 2,363-73 feet, flowing 1,500 bbls.

Gulf Refining Co.'s No. 12 Murphy, CEL NE SE, Section 9-16-15, sand at 2,430-47 feet, flowing 4,000 bbls.

Crosbie and others' No. A-3 Lawton, CNL SW SE SW, Section 10-16-15, sand at 2,40106 feet, flowing 700 bbls.

Ramage and others' No. 3 Cook, C SW NE NW, Section 16-16-15, sand at 2,445-50 feet, swabbing; 1,400 feet of oil in the hole.

Staves Brothers' No. 1 Cook, C NE SE NW, Section 16-16-15, cored two feet of sand at 2,435 feet; had a good showing of oil; will set 5-inch casing and test.

Tidal Osage Oil Co.'s No. 5 Vestal, NW NE SE NW, which started at 3,500 bbls. from sand at 2,508-13 feet, a deeper sand, is now making 50 per cent salt water and 20 per sent sediment.

The Standard Oil Co. of Indiana bought the Dashko 20 acres in Section 34-15-15 on which is a well which on Saturday flowed between 22,000 and 27,000 bbls., for $250,000. The purchase included what oil Dashko and his associates had in storage from the big well.

CALIFORNIA REPORTS SALE UP, PRICE FIRMER

LOS ANGELES, Calif., May 9.—Things are starting to look somewhat better in California. A distinct increase in local gasoline sales has been noticeable during the week. Prices are somewhat firmer although quotations have not changed. One interesting development which has a psychological rather than physical and financial influence on the immediate market is the definite launching of a program by the Standard Oil Co. (California) and the Shell Co. of California for the installation of large scale cracking plants. The Standard Oil Co. (California) has definitely closed for the use of the Dubbs Process despite the fact that the Universal Oil Products Co., the owner of the Dubbs Process, is fighting the Standard of Indiana on Patent infringement by the Burton Process. In California marketing circles the policy of the Standard and Shell as well as of Union and Associated Oil Cos. in definitely going into the cracking field is construed in only one way, i. e., that a much stronger gasoline market is expected within the next year; otherwise, it would not be feasible to attempt to market cracked gasoline, either straight or in blend, in competition with straight run of which there is at the present time such an enormous surplus on the Pacific Coast.

The entire refined oil and fuel oil market in California has been remarkably steady so far as price fluctuations are concerned for the past month or more. Even the absorption natural gasoline spot market which has been rather weak for some time is firm at its present level of 12½ to 13 cents per gallon f. o. b. Southern California points.

Lubricants are moving in increased volume in sympathy with gasoline and both the fuel and fuel distillate markets are showing more strength although much still remains to be desired in the way of larger sales and better prices.

JOSEPH SEEP, NOW 87

TITUSVILLE, Pa., May 8.—Joseph Seep, founder and head of the Seep Oil Purchasing Agency, now associated with the South Penn Oil Co., celebrated his 87th birthday at his home here yesterday. Mr. Seep is active in oil affairs and goes to his offices at Oil City daily to transact business.

Many telegrams of congratulations were received from various parts of the United States, one from John D. Rockefeller, with whom Mr. Seep was personally associated in the early days of the petroleum industry.

MAY RAISE VIRGINIA TAX

RICHMOND, Va., May 11.—A movement is on foot to increase the State gasoline tax in Virginia from 3 to 5 cents a gallon. It is estimated this would provide an additional $12,000,000 annually for highway construction.

COMPETITION AMONG LARGER UNITS AFFECTS EASTERN GASOLINE MARKET

By N. O. Fanning

NEW YORK, May 9.—The feature of the refined oil markets in the Eastern field during the week was a reduction of 2 cents per gallon in the gasoline tank wagon market by The Texas Co. in greater New York, Stamford, Conn., and Springfield, Mass., to 18 cents. This was put into effect on Tuesday, May 5, and was followed in greater New York only by the Gulf Refining Co. on May 6 and the Standard Oil Co. of New York on May 7.

It is still a question whether the 2-cent reduction will spread throughout the Atlantic Seaboard territory. When one large marketer cuts prices the others must necessarily follow, but it is by no means certain any of the larger units will reduce tank wagon quotations in any other cities than the three named.

Tank car gasoline can be had in small quantities as low as 9½ cents per gallon here, although marketers are speculating as to who can make any money selling at that figure. A price such as that is obviously not representative of any reasonable market, and represents "dumping" of distress gasoline.

Demand Continues Good

Marketers of gasoline in the East have been favored with a continuation of unusually fine weather which has kept the rate of consumption up above expectations. A canvass of leading marketers shows that many began to draw upon stocks before the end of April, and there is a very good possibility that stocks will be drawn upon substantially in May.

Refining operations have been speeded up, with a resultant increase in output of gasoline, while this supply is being supplemented by receipts of gasoline from the Pacific Coast. It is also reported that the Standard Oil Co. of New Jersey and Atlantic Refining Co. are in the Mid-Continent market on a larger scale.

Kerosene Firmer

The kerosene demand has been stimulated by export buying. The domestic situation is unchanged, the price factor being governed largely by gasoline.

Gas oil is firm, without much bisness being done at prevailing quotations.

Fuel Oil Unchanged

The softening tendency in the fuel oil market still prevails due largely to the large production of heavy crude. Demand continues heavy, and the trade hopes a turn in the production situation will postpone or put off entirely any further price cuts. Diesel oil is unusually firm at $2.30 (lighterage extra) but bunker fuel oil tends to ease off from the current price of $1.75.

Lubricating Oils Unchanged

There has been no appreciable change in the lubricating oil price situation, cylinder oils being in best demand, with reds and pales soft. Both domestic and export business have picked up somewhat but consumers seem well stocked, having bought heavily during January and February.

The tanker chartering market remains weak. This is attributed to a slackening in the California and Mexican trade. Although the Gulf Coast traffic is becoming heavier this can be handled with a smaller number of boats.

Oil Exports Heavy

The oil export movement from New York has taken on renewed life, the feature being heavy shipments of cased gasoline, kerosene and lubricating oils. Exports of gasoline in cases amounted to 2,251,136 gallons, while those of kerosene totaled 3,043,280 gallons. Cased lubricant shipments aggregated 375,850 gallons.

The only bulk shipment reported during the past week was a cargo consisting of 1,568,627 gallons of export naphtha destined for France.

Exports of lubricants in barrels aggregated approximately 978,700 gallons, against 1,275,950 gallons the preceding week.

Paraffin wax shipments held up fairly well, amounting to 1,341,040 pounds of refined.

Much of the revival in the oil export trade here is said to represent the carrying out of contracts made around the first of the year, and does not represent new business to any great extent. The reduction in export quotations discouraged foreign buying, but there are now signs of a rise in both domestic and export prices which it is believed would bring a change in the attitude of foreign buyers over night. There has been an increase in inquiries from Europe in the last week.

The following table shows principal exports of petroleum and petroleum products from New York reported during the past three weeks, (figures in gallons unless otherwise stated in parentheses):

	Week Ended		
	May 6	April 29	April 22
Gasoline—			
Bulk	1,568,627	.....	.....
Barrels	321,700	.....	.....
Cases	2,251,136	1,098,480	1,254,250
Kerosene—			
Bulk	.....	3,067,612	5,523,915
Barrels	174,700	.....	.....
Cases	3,043,280	1,994,490	649,000
Lubricating Oil—			
Bulk	.....	.....	209,607
Barrels	978,700	1,275,950	1,488,250
Cases	375,850	86,120	98,260
Lubricating grease—			
Cases (No.)	1,100	.....	1,330
Paraffin Wax—			
Bags (lbs.)	1,341,340	762,080	1,689,820
Barrels (bbls.)	.....	.....	712
Petroleum asphalt—			
Bulk (lbs.)	.....	.....	1,443,216
Barrels (bbls.)	5,603	.....	.....
Petroleum coke—			
Bags (tons)	.....	995	.....
Bulk (lbs.)	.....	.....	2,240,560
Crude oil—			
Barrels (bbls)	3,338	3,128	2,977

One of the largest case shipments of lubricating oil recently made consisted of 16,826 cases to India.

Oil Receipts Gain

Estimated receipts of crude and refined oil by water at Atlantic ports during the week ended May 6 average 688,000 bbls. daily, against 504,000 bbls. the preceding week, an increase of 184,000 bbls. Receipts from all sources contributed to the large total, those from the Gulf Coast going above 400,000 bbls. daily for the second time within four weeks. Receipts from California averaged 125,000 bbls. daily, against 109,000 the week before, while imports averaged 152,000 bbls., compared with 83,000 the week ended April 29.

The large receipts last week were swelled by receipts of gasoline from California and of fuel oil from Mexico, which were unusually heavy. The heavy consumption of gasoline and fuel oil on the Atlantic Seaboard has resulted in most Atlantic Coast refineries increasing their refinery production, despite the receipt of large quantities of finished products by tanker.

The following table shows daily average receipts of crude and refined oil by water at Atlantic ports from the Gulf and Pacific Coasts of the United States, and imports, for the last three weeks; also monthly record for the last 12 months, (figures in barrels):

	Week Ended		
	May 6	April 29	April 22
Gulf Coast	411,000	312,000	360,000
Pacific Coast	125,000	109,000	48,000
Imports	152,000	83,000	117,000
Total	688,000	504,000	525,000

Daily Averages by Months

	Gulf	Pacific	Impts.	Total
April, 1925	353,000	78,000	101,000	532,000
March	273,000	82,000	135,000	490,000
February	262,000	51,000	147,000	460,000
January	311,000	77,000	133,000	521,000
Dec. 1924	306,000	83,000	85,000	474,000
November	246,000	80,000	150,000	476,000
October	246,000	120,000	88,000	454,000
September	270,000	104,000	101,000	475,000
August	310,000	127,000	84,000	521,000
July	318,000	85,000	114,000	517,000
June	302,000	133,000	136,000	571,000
May	276,000	122,000	144,000	542,000

The foregoing estimates are based upon the carrying capacity of incoming oil-laden tankers.

INDIANA BUYS SMACKOVER

SHREVEPORT, La., May 9.—Southern Pipe Line Co. (Standard Oil of Indiana) has purchased 300,000 bbls. of Smackover crude at 60 cents a barrel or better.

NORTH CENTRAL TEXAS

(Continued from Page 32)

Co.'s No. 2 Campbell Bank, dry at 1,390 feet; No. 9-C Richardson, 125 bbls. at 1,297 feet; No. 19 Murchison, 125 bbls. at 1,282 feet; Ross and others' No. 1 Seay, dry at 1,803 feet; Shaw and others' No. 9 Hausler, 32 bbls. at 1,148 feet; Staley and others' No. 1 Bloodworth, dry at 1,265 feet; Sun Oil Co.'s No. 3 Abercrombie, dry at 1,500 feet; United Central Oil Corp.'s No. 7 Rogers, 48 bbls. at 1,345 feet.

Young County

Humble Oil & Refining Co.'s No. 11 Schlegel, 75 bbls. at 1,193 feet; Mooers and others' No. 2 Ickert, 65 bbls. at 1,222 feet; Murchison and others' No. 3 Campbell, 67 bbls. at 992 feet; Gulf Production Co.'s No. 3-D Hamilton, 30 bbls. at 1,189 feet; No. 2 Haygood, dry at 1,100 feet; The Texas Co.'s No. 1 Gambrell, 80 bbls. at 1,214 feet; No. 23 Gambrell, 190 bbls. at 1,213 feet; No. 24 Gambrell, 165 bbls. at 1,214 feet.

Stephens County

Snowden & McSweeney's No. 5 Higginbotham, dry at 3,230 feet; T. P. Coal & Oil Co.'s No. 6 Rogers, dry at 3,294 feet; Pender Production Co.'s No. 3 Davis, dry at 3,346 feet; Sun Oil Co.'s No. 7 McMeen, dry at 2,185 feet; T. P. Coal & Oil Co.'s No. 51 Binney, 75 bbls. at 1,919 feet; No. 52 Binney, 30 bbls. at 1,690 feet.

Eastland County

States Oil Corp.'s No. 4 Summerall, 8 bbls. oil and 25 bbls. water at 2,116 feet.

Carson County

Gulf Production Co.'s No. 6 Burnett, 5 bbls. at 2,984 feet; The Texas Co.'s No. 2-A M. C. Burnett, 550 bbls. at 2,984 feet.

Clay County

Morris and others' No. 1 Stephenson, dry at 1,525 feet.

Montague County

Daniels and others' No. 1 Salmon, making 15,000 feet of gas at 896 feet.

Throckmorton County

Panhandle Refining Co.'s No. 1 Martin, dry at 1,601 feet; Reiter-Foster's No. 1 Stubblefield, making 65 bbls. at 2,973 feet.

Shackelford County

Hyde and others' No. 1 Moberly, dry at 1,280 feet; Knight and others' No. 1 Moberly, 20 bbls. at 1,015 feet; Landreth Production Co.'s No. 1 Kendrick, dry at 1,001 feet; Phillips Petroleum Co.'s No. 2 Parrish, 390 bbls. at 2,087 feet.

Mitchell County

California Co.'s No. 8 Abrams, 67 bbls. at 3,056 feet.

Brown County

Prairie Oil & Gas Co.'s No. 9 Newton, 210 bbls. at 1,287 feet.

Reagan County

Big Lake Oil Co.'s No. 14 University, 738 bbls. at 2,067 feet; No. 16 University, 2,560 bbls. at 3,005 feet; Texon Oil & Land Co.'s No. 7 group 1 University, making 5,040 bbls. at 2,960 feet.

Pecos County

Arkansas Fuel Oil Co.'s No. 1 Blackstone, dry at 3,395 feet.

Wichita County Drilling

Ascot Co.'s No. 17 Roller is drilling at 1,220 feet; Continental Oil Co.'s No. 6 Roller, plugging back to 1,050 feet; Magnolia Petroleum Co.'s No. 114 Reilly, drilling at 1,200 feet; Wilcox and others' No. 1 Abernathy, underreaming; Panhandle Refining Co.'s No. 1 Michna, coring sand at 1,355 feet; No. 1 Nitsche, drilling at 1,450 feet; Apple and others' No. 11-A Jennings, 800 feet; Bullington and others' No. 1 Jennings, spudding; Consolidated Oil Co.'s No. 1 Smythe, spudding; Dale Oil Corp.'s No. 10 Jennings, drilling at 700 feet; Empire Gas & Fuel Co.'s No. 7 Pierce, rigging to pump; Hawkins and others' No. 7 Watkins, drilling at 1,700 feet; Joe Howell and others' No. 4 Burnett, 1,200 feet; Howell and others' No. 1 Burnett, cleaning out at 1,598 feet; Humble Oil & Refining Co.'s No. 2-A Waggoner, drilling at 1,899 feet; Lanning and others' No. 5 McCarty, 900 feet; Maer and others' No. 1 Waggoner, (Section 2), spudding; Magnolia Petroleum Co.'s No. 13 Douglas, drilling at 840 feet; No. 17 Maer, setting liner at 1,773 feet; No. 20 Maer, drilling at 1,030 feet; No. 44 Rio Bravo, rigging to pump; No. 45 Rio Bravo, drilling at 1,210 feet; No. 46 Rio Bravo, 550 feet; No. 4 Watkins, 2,035 feet.

Wilbarger County Drilling

Atlantic Oil Production Co.'s No. 2-B Waggoner, drilling at 600 feet; No. 5 Zipperle, underreaming; Beatty and others' No. 1 Waggoner (Section 15), drilling at 910 feet; No. 1 Waggoner (Section 47), 1,700 feet; Brewer and others' No. 1 Schmaker, 1,510 feet; Bridwell and others' No. 6 Dill, 1,830 feet; No. 7 Dill, 1,200 feet; No. 1 McCrary, 1,400 feet; No. 9 Stephens, 1,800 feet; Burton and others' No. 1 Waggoner, 1,995 feet; Consolidated Oil Co.'s No. 1 Kelly, 1,400 feet; No. 2 Waggoner (Section 2), underreaming; No. 1 Waggoner (Section 27), drilling at 1,000 feet; No. 1 Waggoner, (Section 2), 785 feet; No. 1 Waggoner (Section 7), 1,680 feet; Continental Oil Co.'s No. 4 Zipperle, 1,455 feet; No. 5 Zipperle, 1,700 feet; Durham and others' No. 2 Waggoner, 925 feet; No. 3 Waggoner, 1,000 feet; Dyson and others' No. 1 Waggoner, fishing at 1,200 feet; Electra Texas Oil Co.'s No. 2 Waggoner, drilling at 450 feet; Herbert Oil Co.'s No. 1 Waggoner, 625 feet; Holmes and others' No. 1 Richardson, spudding; Humble Oil & Refining Co.'s No. 16 Castlebury, drilling at 1,110 feet; No. 18 Stephens, cleaning out at 1,125 feet; No. 21 Stephens, fishing at 2,164 feet; No. 22 Stephens, spudding; No. 24 Stephens, drilling at 473 feet; No. 25 Stephens, 325 feet; No. 26 Stephens, 846 feet; Kolp and others' No. 4 Waggoner has oil and water showing at 1,800 feet.

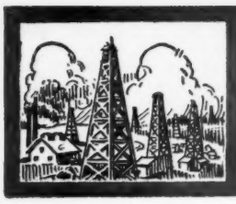
Archer County Drilling

Carter and others' No. 3 Ferguson, rigging to pump at 1,767 feet; Shappell Oil Co.'s No. 19 Jackson, cementing casing at 1,788 feet; No. 20 Jackson, drilling at 500 feet; Texhoma Oil & Refining Co.'s No. 2 Morrison, 1,785 feet; Wolfe and others' No. 4 Chilson, 1,000 feet; Atlantic Oil Production Co.'s No. 8-A Parrish, 1,355 feet; Beaudoin and others' No. 1 Carter, 680 feet; Burns and others No. 1 Wilson, 1,310 feet; Camp Oil & Gas Co.'s No. 7 Wilmot, underreaming; Carter and others' No. 1 Wilson, drilling at 1,540 feet; Dale Oil Corp.'s No. 2 Wilmot, rigging to pump at 1,404 feet; Franklin and others' No. 9-B Parrish, drilling at 815 feet; Lincoln and others' No. 1 Rutty, 1,617 feet; McCarty Oil Co.'s No. 1 Wilson, 1,600 feet; Navarro Oil Co.'s No. 1 Wilson, 1,620 feet; Norwood and others' No. 1 Carson, 1,410 feet; O'Donohoe and others' No. 1 Perkins, 510 feet; Oil Investment Co.'s No. 9 fee, drilling an oil sand at 1,190 to 1,199 feet; Prairie Oil

(Continued on Page 159)

A REFINERY OPPORTUNITY

A skimming plant, erected in 1920, and operated for a period of four months, actual capacity 3,000 barrels daily, located in northwest Central Texas, in excellent condition, including tankage, loading rack and complete in every respect, can be purchased, including the land upon which the plant is located, for an amount less than the salvage value of the materials in the plant. For information address "Refinery Opportunity," care The Oil and Gas Journal, Tulsa, Oklahoma.



REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	May 12		May 5		April 28	
OKLAHOMA (Group 3)—						
50-52 450 end point (Naphtha)	.10½	.10¾	.09¾	.10	.09¾	.10
56-58 450 end point	.10¾	.11	.10	.10¼	.09¾	.10
58-60 437 end point (U. S. Motor)	.11	.11¼	.10½	.10¾	.10¼	.10½
60-62 400 end point	.12¼	.12½	.11½	.11¾	.11½	.11¾
64-66 375 end point	.13¼	.13½	.12¾	.13	.12¾	.13
68-70 350 end point	.13½	.13¾	.13	.13¼	.13	.13¼
KANSAS—						
58-60 437 end point (U. S. Motor)	.11¼	.11½	.10½	.10¾	.10¼	.10½
NORTH TEXAS—						
48-52 450 end point (Naphtha)	.10¼	.10½	.09¾	.10	.09¾	.10
50-52 440 end point (Naphtha)	.10½	.10¾	.09¾	.10	.09¾	.10
56-58 450 end point	.10¾	.11	.10	.10¼	.10	.10¼
56-60 437 end point (U. S. Motor)	.11	.11¼	.10¼	.10½	.10¼	.10½
60-62 400 end point	.12¼	.12½	.11½	.11¾	.11½	.11¾
64-66 390 end point	.13	.13¼	.12¼	.12½	.12½	.12¾
64-66 375 end point	.13¼	.13½	.12¾	.13	.12¾	.13
68-70 360 end point	.13½	.13¾	.13	.13¼	.13	.13¼
NORTH LOUISIANA—						
56-58 450 end point	.10¾	.11	.10	.10¼	.10¼	.10½
58-60 437 end point (U. S. Motor)	.11½		.10½	.10¾	.10¾	.11
60-62 400 end point	.12½	.12¾	.11½	.12	.11½	.12
64-66 390 end point	.13¼		.12½	.12¾	.12½	.12¾
64-66 375 end point	.13½		.12¾	.13	.12¾	.13
ARKANSAS—						
58-60 450 end point	.11¼	.11½	.10½	.10¾	.10½	.10¾
58-60 437 end point (U. S. Motor)	.11½	.11¾	.10¾	.11	.10¾	.11
64-66 375 end point	.13¾	.14	.13	.13¼	.13	.13¼
ROCKY MOUNTAIN STATES—						
*58-60 437 end point (U. S. Motor)	.14	.14¼	.12¾	.13	.12¾	.13
PENNSYLVANIA—						
52 Naphtha	.12¾		.12¾		.12¾	
54 Naphtha	.12¾		.12¾		.12¾	
56 Gasoline	.13		.13		.13	.13¼
58 Gasoline	.13		.13		.13	.13¼
60 Gasoline	.14		.14		.14	.14¼
62 Gasoline	.14½		.14½		.14½	.14¾
64 Gasoline	.15		.15		.15	.15¼
66 Gasoline	.15		.15		.15	.15¼
68-70 Gasoline	.17¼		.17¼		.17¼	.17½
CALIFORNIA—						
54-56 437 end point (U. S. Motor) domestic	.11	.11½	.11	.11½	.11	.11½
CHICAGO DIST. (Based on Group 3)—						
50-52 450 end point (Naphtha)	.10¼	.10½	.09¾	.10	.09½	.09¾
56-58 450 end point	.10⅝	.10⅞	.10	.10⅛	.10	.10¼
58-60 437 end point (U. S. Motor)	.11	.11¼	.10¼	.10½	.10¼	.10½
60-62 400 end point	.12¼	.12½	.11½	.11¾	.11¾	.12
64-66 375 end point	.13¼	.13½	.12½	.12¾	.12¾	.13
68-70 360 end point	.13½	.13¾	.13	.13¼	.13¼	.13½

NATURAL GASOLINE

	May 12		May 5		April 28	
OKLAHOMA (Group 3)—						
⌠Grade Double A, 80-87.9, 375 e.p., rec. 90%	.11	.11¼	.10¼	.10½	.09¾	.10
⌡Grade A, 72-79.9, 375 end point, rec. 90%	.11	.11¼	.10¼	.10½	.10	
⌠Grade Double B, 84-92, 375 e.p., rec. 85%	.11		.09¾	.10	.09¾	
⌡Grade B, 76-83.9, 375 end point, rec. 85%	.11		.09¾	.10	.09¾	
Grade C, 80-90, 375 end point, rec. 78%	.11		.09¾		.09¼	
NORTH TEXAS—						
⌠Grade Double A, 80-87.9, 375 e.p., rec. 90%	.11	.11¼	.10¼	.10½	.09¾	.10
⌡Grade A, 72-79.9, 375 end point, rec. 90%	.11	.11¼	.10¼	.10½	.10	
⌠Grade Double B, 84-92, 375 e.p., rec. 85%	.11		.09¾	.10	.09¾	
⌡Grade B, 76-83.9, 375 end point, rec. 85%	.11		.09¾	.10	.09¾	
Grade C, 80-90, 375 end point, rec. 78%	.11		.09¼		.09¼	
NORTH LOUISIANA—						
Grade A, 72-79.9, 375 end point, rec. 90%	.12		.10½		.10¾	
Grade B, 76-83.9, 375 end point, rec. 85%	.11½		.10		.10	
Grade C, 80-90, 375 end point, rec. 78%	.11		.09½		.09½	
CALIFORNIA—						
68-80 absorption, 360-390 end point	.12½	.13	.13½	.14	.13½	.14
78-84 compression, 350 end point	.13½		.13½		.13½	
CHICAGO DIST. (Based on Group 3)—						
⌠Grade Double A, 80-87.9, 375 e.p., rec. 90%	.10¾	.11	.10¼	.10½	.10	.10¼
⌡Grade A, 72-79.9, 375 end point, rec. 90%	.10¾	.11	.10¼	.10½	.10	.10¼
⌠Grade Double B, 84-92, 375 e.p., rec. 85%	.10½	.10¾	.09¾	.10	.09	.09¼
⌡Grade B, 76-83.9, 375 end point, rec. 85%	.10½	.10¾	.09¾	.10	.09	.09¼
Grade C, 80-90, 375 end point, rec. 78%	.10½		.09¾		.08¼	.08½

MOTOR NATURAL GASOLINE (BLENDS)

	May 12		May 5		April 28	
OKLAHOMA (Group 3)—						
60-62 450 end point	.10¾	.11¼	.10		.10	.10¼
64-66 437 end point	.10¾	.11¼	.10		.10	.10¼
68-70 430-435 end point	.10¾	.11	.10		.10	.10¼
NORTH TEXAS—						
58-60 440 end point	.10¾	.11	.10		.10	.10¼
58-60 450 end point	.10¾	.11	.10		.10	.10¼
PENNSYLVANIA—						
*60-62	.13		.13		.13	
*64-66	.13		.13		.13	
*66-68	.13		.13		.13	
*68-70	.13		.13		.13	
CHICAGO DIST. (Based on Group 3)—						
60-62 450 end point	.10¼	.10½	.09¾	.10	.09¾	.10
64-66 450 end point	.10¼	.10½	.10	.10¼	.10	.10¼
68-70 437 end point	.10¼	.10½	.10	.10¼	.10	.10¼

*At Sistersville, W. Va.

BURNING OIL

	May 12		May 5		April 28	
KANSAS—						
41-43 water white Kerosene	.04⅝	.04⅝	.04⅝	.04⅝	.04¼	.04½
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04⅛	.04¼	.04¼	.04¼	.04	.04¼
42-44 water white Kerosene	.04½	.04¾	.04⅝	.04½	.04¼	.04½
40-41 prime white Kerosene	.04	.04⅛	.03¾	.04	.03¾	04
NORTH LOUISIANA—						
40-41 prime white Kerosene	.04	.04⅛	.03¾	.04	.03¾	.04
42-44 water white Kerosene	.04¾		.05		.05	
ROCKY MOUNTAIN STATES—						
*40-42 water white Kerosene	.07	.07¼	.07	.07¼	.07	.07¼
NORTH TEXAS—						
41-43 water white Kerosene	.04⅛	.04¼	.04	.04¼	.04	.04¼
40-42 prime white Kerosene	.04	.04¼	.03¾	.03⅞	.03¾	
41-43 prime white Kerosene	.04¼	.04¼	.04	.04⅛	.04	.04¼
42-44 water white Kerosene	.04⅜	.04½	.04¼	.04½	.04¼	.04½
ARKANSAS—						
41-43 water white Kerosene	.04½	.04¾	.04½	.04¾	.04½	.04¾
43-44 water white Kerosene	.04¾	.05	.04¾	.05	.04¾	.05
PENNSYLVANIA—						
43 Kerosene prime white	.06¾		.06¾		.06⅝	
45 Kerosene water white	.06½		.06½		.06½	
46 Kerosene water white	.07¼		.07¼		.07¼	
47 Kerosene water white	.07¾		.07¾		.07¾	
34 Neutral	.07½		.07½		.07½	
34 Sundebloomed Neutral	.08	.08¼	.08	.08¼	.08	.08¾
36 Miners' Neutral	.07½		.07½		.07½	
300 Mineral Seal	.07½		.07½		.07½	
CALIFORNIA—						
40-42 water white (high burning test)	.07½	.08	.07½	.08	.07½	.08
Engine distillate, 43-45 445 end point	.08½	.09	.08½	.09	.08½	.09
Engine distillate, 42-44 480 end point	.07¾	.08	.07¾	.08	.07¾	.08
CHICAGO DIST. (Based on Group 3)—						
41-43 water white Kerosene	.04⅛	.04¼	.04¼	.04¼	.04¼	.04½
42-44 water white Kerosene	.04¼	.04½	.04¼	.04½	.04¼	.04½

*Colorado points.

FUEL OILS

	May 12		May 5		April 28	
KANSAS—						
24-26 Fuel Oil	.90	.95	.95	1.00	1.02½	1.05
32-36 Gas Oil	.03⅛	.03¼	.03⅛	.04¼	.03¼	.03½
38-40 Distillate	.03¼	.03½	.03¼	.03½	.03½	.03⅝
OKLAHOMA (Group 3)—						
Below 22 Fuel Oil (sellers' cars)	.85	.87½	.90		.90	
22-26 Fuel Oil (sellers' cars)	.87½	.90	.90	.95	.90	.95
24-26 Fuel Oil (buyers' cars)	.90	.92½	.90	.95	.95	1.00
24-26 Fuel Oil (sellers' cars)	.90	.92½	.90	.95	.95	1.00
28-30 Fuel Oil (sellers' cars)	.92½	.97½	1.00		1.05	1.07½
32-36 Gas Oil	.02⅞	.03⅛	.02¾	.02⅞	.02¾	.02⅞
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
38-40 Straw distillate	.03	.03⅛	.03	.03⅛	.03⅛	.03⅛
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.90	.95	.95	1.00	1.02½	1.05
26-30 Fuel Oil	.95	1.00	1.00		1.07½	
32-36 Gas Oil	.02¾	.02⅞	.02¾	.02⅞	.02¾	.02⅞
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03⅛	.03⅛
38-40 Straw distillate	.03⅛	.03¼	.03⅛	.03¼	.03¼	.03⅜
NORTH LOUISIANA—						
18-20 Fuel Oil	.90		.90	1.00	.90	1.00
32-36 Gas Oil	.03⅜		.03¼	.03½	.03¼	.03½
ARKANSAS—						
38-40 Distillate	.03¼	.03⅜	.03¼	.03⅜	.03¼	.03⅜
32-36 Gas Oil	.03⅛	.03¼	.03¼	.03½	.03¼	.03½
22-26 Refinery Fuel Oil	.90	.95	.90	.95	.90	.95
GULF COAST (South Texas)—						
Gas Oil	.04¾	.05	.04¾	.05	.04¾	.05
Fuel Oil	1.45	1.50	1.45	1.50	1.55	1.60
PENNSYLVANIA—						
30-34 Fuel Oil	.04½		.04¼		.04¼	
36-40 Fuel Oil	.05⅝		.05½		.05½	
CALIFORNIA—						
33-36 Distillate	.04¾	.05	.04¾	.05	.04¾	.05
27-33 Distillate	.04	.04½	.04	.04½	.04	.04½
15-20 Fuel Oil (at tide water)	1.60	1.65	1.60	1.65	1.60	1.65
CHICAGO DIST. (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars, Group 3)	.90	.95	.92½	.97½	.95	1.00
18-22 (El Dorado)	.85	.90	.90	.95	.92½	.97½
18-20 (Smackover)	.80	.85	.75	.80	.75	.80
32-36 Gas Oil	.02¾	.03	.02¾	.03⅛	.03	.03⅛
36-38 Distillate	.03	.03¼	.03⅛		.03⅛	.03¼
38-40 Straw distillate	.03⅛	.03¼	.03¼		.03¼	.03⅜

LUBRICATING OILS AND WAX

	May 12		May 5		April 28	
OKLAHOMA (Group 3)—						
Neutrals:						
70-80 vis., 2½ color, 20-25 cold test	.07	.07½	.07	.07½	.06	.06½
100 vis., 2 color, 20-25 cold test	.08½	.09	.08½	.09	.06¼	.06½
100 vis., 3 color, 20-25 cold test	.08	.08½	.08	.08½	.05¾	.06
150 vis., 3 color, 20-25 cold test	.10½	.11	.10½	.11	.10½	.11
150 vis., 4 color, 20-25 cold test	.10¼	.10½	.10¼	.10¾	.10¼	.10¾
180 vis., 4 color, 23-28 cold test	.10¾	.11¼	.10¾	.11¼	.10¾	.11½
180 vis., 3 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
200 vis., 3 color, 23-28 cold test	.12	.12½	.12	.12½	.12	.12¾
200 vis., 4 color, 23-28 cold test	.11¾	.12¼	.11¾	.12¼	.11¾	.12¾
220 vis., 3 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
220 vis., 4 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
240 vis., 3 color, 25-30 cold test	.16	.16½	.16	.16½	.16	.16½
240 vis., 4 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 3 color, 25-30 cold test	.17½	.18	.17½	.18	.17½	.18
280 vis., 4 color, 25-30 cold test	.16½	.17	.16½	.17	.16½	.17
Red Neutrals:						
180 vis., 5 color, 23-28 cold test	.10½	.11	.10½	.11	.10¼	.11
180 vis., 6 color, 23-28 cold test	.10	.10½	.10	.10½	.10	.10½
200 vis., 5 color, 23-28 cold test	.11½	.12	.11½	.12	.11½	.12
200 vis., 6 color, 23-28 cold test	.11	.11½	.11	.11½	.11	.11½
220 vis., 5 color, 25-30 cold test	.13½	.14	.13½	.14	.13½	.14
220 vis., 6 color, 25-30 cold test	.13	.13½	.13	.13½	.13	.13½
240 vis., 5 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
240 vis., 6 color, 25-30 cold test	.14½	.15	.14½	.15	.14½	.15
280 vis., 5 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

Cylinder Stocks—						
180-200 vis., S. R. green, 40-45 cold test	.09½	.10	.09½	.10	.09½	.10
190-200 vis., S. R. green, 40-45 cold test	.08½	.09	.08½	.09	.08½	.09
170-190 dark green, 40-45 cold test	.07½		.07½		.07½	
600, E filtered	.21¾		.21¾		.21¾	
190-200 vis. @ 210 "D" Bright Stock	.36		.36		.36	
200-210 vis. @ 210 "E" Bright Stock	.31		.31		.31	
150 vis. @ 210 "D" Bright Stock	.32		.32		.32	
150 vis. @ 210 "E" Bright Stock	.28		.28		.28	
Waxes:						
124-126 White Crude Scale Wax	.04¾	.05	.04¾	.05	.04½	.04¾
PENNSYLVANIA—						
150, 3 color	.19½		.20		.19	.19¼
180, 3 color	.21¾		.21¾		.20¾	
200, 3 color	.23¾		.23¾		.22¾	.23
220, 3 color	.25½		.25½		.25	
600, steam refined	.18		.17		.16½	.16¾
635, steam refined	.22½		.22½		.22½	
650, steam refined	.25		.23½	.24	.24½	.24¾
600, Pennsylvania flash	.29		.33		.29	.29¼
630, Pennsylvania flash	.38		.38		.37	.37½
*550, E filtered	.23		.23		.22¼	.22½
*600, E filtered	.25½		.25½		.24	.24¼
600, E filtered	.23		.23¾		.23	.23¼
600, D filtered	.29		.30½		.29	.29¼
550, E filtered	.22		.22½		.22	.22¼
550, D filtered	.25		.25½		.24½	.25
Pennsylvania Bright Stock	.37½		.36½	.37	.37	.37¼
122-124 White Crude Scale Wax	.04⅞		.05		.04⅞	
†124-126 White Crude Scale Wax	.05		.05⅛		.05	

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
Zero Black	.06	.07	.06	.07	.06	.07
No. 2 color, 100 vis., pale oil	.09½	.10½	.09½	.10½	.09½	.10½
No. 2 color, 150 vis., pale oil	.11	.12	.11	.12	.11	.12
No. 3 color, 200 vis., pale oil	.14	.15	.14	.15	.14	.15
No. 3 color, 300 vis., pale oil	.16	.17	.16	.17	.16	.17
No. 3½ color, 500 vis., pale oil	.18	.19	.18	.19	.18	.19
No. 3½ color, 750 vis., pale oil	.23½	.24½	.23½	.24½	.23½	.24½
No. 4½ color, 1200 vis., pale oil	.26½	.27½	.26½	.27½	.26½	.27½
No. 4 color, 2000 vis., pale oil	.30	.31	.30	.31	.30	.31
No. 2 plus color, 150 vis., pale filtered	.21½		.21½		.21½	
No. 2 plus color, 200 vis., pale filtered	.23		.23		.23	
No. 2½ minus color, 300 vis., pale filtered	.26½		.26½		.26½	
No. 2½ color, 500 vis., pale filtered	.30½		.30½		.30½	
No. 2½ color, 800 vis., filtered	.40½		.40½		.40½	
No. 5 to 6 color, 200 vis., red oil	.12½	.13½	.12½	.13½	.12½	.13½
No. 5 to 6 color, 300 vis., red oil	.14½	.15½	.14½	.15½	.14½	.15½
No. 5 to 6 color, 500 vis., red oil	.16½	.17½	.16½	.17½	.16½	.17½
No. 5 to 6 color, 750 vis., red oil	.21½	.22½	.21½	.22½	.21½	.22½
CALIFORNIA—						
130 pale, 2½-3 color	.12	.12½	.12	.12½	.12	.12½
200 vis., 2½-3 color	.15½	.16	.15½	.16	.15½	.16
300 vis., 3 -3½ color	.17	.17½	.17	.17½	.17	.17½
350 vis., 3½-4 color	.18½	.19	.18½	.19	.18½	.19
400 vis., 3½-4 color	.20	.20½	.20	.20½	.20	.20½
Red Neutrals:						
300 vis., 4½-5 color	.14	.14½	.14	.14½	.14	.14½
300 vis., 5 -6 color	.15	.15½	.15	.15½	.15	.15½
400 vis., 5 -6 color	.17	.17½	.17	.17½	.17	.17½
500 vis., 4½-5 color	.20	.21	.20	.21	.20	.21
500 vis., 6 -6½ color	.18	.19	.18	.19	.18	.19
600 vis., 6½ plus color	.19	.19½	.19	.19½	.19	.19½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK DOMESTIC MARKET

Bayonne Refinery Prices:	May 12	May 5	April 28
U. S. Motor Gasoline, 58-60 437	.15	.15	.15
*Bunker Oil, 14-16 Be.	1.75	1.75	1.80
Diesel Oil, 28-30 Be.	2.30	2.30	2.30
Furnace Oil, New York City	.10	.10	.10
Gas Oil, 32-36 Be.	.06¾	.06¾	.06¾
41-43 Kerosene prime white	.07	.07	.07

*Lighterage, 6.5c a barrel extra.

NEW YORK EXPORT PRICES

Motor Gasoline:	May 12	May 5	April 28
58-60 Be. gravity, in cases	.29.15	.29.15	.29.15
U. S. Navy, in bulk	.15	.15	.15
Naphtha:			
60° F., 59-61 Be. gravity, in bulk	.17¾	.17¾	.17¾
60° F., 62-63 Be. gravity, in bulk	.19	.19	.19
60° F., 66-68 Be. gravity, in bulk	.20½	.20½	.20½
Kerosene:			
Standard white, 40-42 Be. grav., in bulk	.06½	.06½	.06½
Standard white, 40-42 Be. grav., in barrels	.13½	.13½	.13½
Standard white, 40-42 Be. grav., in cases	.16.9	.16.9	.16.9
Water white, 42-44 Be. grav., in bulk	.07½	.07½	.07½
Water white, 42-44 Be. grav., in barrels	.14½	.14½	.14½
Water white, 42-44 Be. grav., in cases	.17.9	.17.9	.17.9
†Lubricating Oils:			
Cylinder Stock, extra filtered, 600, barrels	.45	.45	.45
Cylinder Stock, light filtered, 600, barrels	.40	.40	.40
No. 1 white Neutral, .878 spec. grav.	.44	.44	.44
No. 5 Bright Stock, .897 spec. grav.	.47	.47	.47
Special "A" red oil, .897 spec. grav., 170 vis.	.20	.20	.20
No. 2 red oil, .903 spec. grav., 212 vis.	.21	.21	.21
No. 1 red oil, .905 spec. grav., 265 vis.	.22	.22	.22
Polar red oil, .906 spec. grav., 295 vis.	.23	.23	.23
Pale oil, "25", .899 spec. grav.	.21½	.21½	.21½
Pale oil, "28", .892 spec. grav.	.17	.17	.17
Paraffin Wax:			
120-122 a.m.p., per lb.	.06¼	.06¼	.06¼
125-127 a.m.p., per lb.	.06¾	.06¾	.06¾
130-132 a.m.p., per lb.	.06¾	.06¾	.06¾
135-137 a.m.p., per lb.	.07½	.07½	.07½
Petrolatum, in bbls., carload lots, per lb.:			
Amber	.03¾		
Light amber	.04		
Cream	.07¼		

†All lub prices in barrels.

LOS ANGELES EXPORT PRICES

	May 12	May 5	April 28
Kerosene water white	.05½ .06	.05½ .06	.05½ .06
U. S. Motor gasoline, 54-56, 437 end point	.10½ .11	.10½ .11	.10½ .11

CRUDE OIL PRICES

Arkansas and North Louisiana

Caddo, 38° and above	$2.05
35° to 37.9°	1.95
32° to 34.9°	1.85
Below 32°	1.70
Homer, 35° and above	1.80
32° to 34.9°	1.70
31° to 32.9°	1.60
Below 31°	1.45
Haynesville, 33° and above	1.70
Below 33°	1.60
El Dorado, 33° and above	1.70
Below 33°	1.60
Bull Bayou, 38° and above	1.85
35° to 37.9°	1.70
32° to 34.9°	1.55
Cotton Valley	1.00
De Soto	1.90
Crichton	1.70
Bellevue	1.75
*Stephen, Ark.:	
Below 26°	1.25
26° and above	1.45

*Posted by Atlantic Oil Producing Co.

†Smackover:
(Standard Oil Co. of Louisiana)

Below 24°	.60
24° to 24.9°	1.10
25° to 25.9°	1.20
26° to 26.9°	1.25
27° and above	1.30

(Posted by Texas Co.)

Below 24°	.60
24° to 25.9°	1.00
26° and above	1.30

Wyoming and Montana

Rock Creek (Wyo.)	2.00
Salt Creek	1.60
Big Muddy	2.00
Mule Creek	1.50
Grass Creek (light)	2.15
Elk Basin	2.15
Lance Creek	2.15
Osage	2.15
Cat Creek (Mont.)	2.15
Sunburst (Mont.)	1.40
Lost Soldier	1.30
Greybull and Torchlight	2.00
Hamilton Dome	1.60
Hogback, N. Mex.	2.20

Lost Soldier and Lander based on contracts.

Oklahoma, Kansas North and Central Texas

Prairie Oil & Gas Co. and other major purchasing companies, except as noted:

Below 30°	1.35
30° to 32.9°	1.55
33° to 35.9°	1.80
36° to 38.9°	2.00
39° to 41.9°	2.25
42° and above	2.35

Sinclair Crude Oil Purchasing Co.—

39° to 41.5°	2.25
41.6° and above	2.35

Magnolia Petroleum Co.:

Below 28°	1.00
28° to 30.9°	1.35
31° to 32.9°	1.55
Corsicana light	2.00
Corsicana heavy	1.00
Mexia and Wortham	2.00

California

14° to 19.9°	1.25
20° to 20.9°	1.27
21° to 21.9°	1.30
22° to 22.9°	1.33
23° to 23.9°	1.36
24° to 24.9°	1.40
25° to 25.9°	1.44
26° to 26.9°	1.48
27° to 27.9°	1.52
28° to 28.9°	1.56
29° to 29.9°	1.60
30° to 30.9°	1.64
31° to 31.9°	1.68
32° to 32.9°	1.72
33° to 33.9°	1.76
34° to 34.9°	1.80
35° and above	1.85

Rosecrans-Athens Field, only:
Below 35.9° gravity, same as other fields.

36° to 36.9°	1.92
37° to 37.9°	2.00
38° to 38.9°	2.08
39° to 39.9°	2.16
40° to 40.9°	2.24
41° to 41.9°	2.32
42° and above	2.40

Humble Oil & Refining Co.

Powell, Currie, Richland	2.00
Mexia and Wortham	2.00
Moran crude:	
Below 30° gravity	1.35
30° to 32.9°	1.55
33° to 35.9°	1.80
36° and above	2.00

Ranger and North Texas, same as Prairie.

Gulf Coast

Grade A	1.75
Grade B	1.50
Luling (based on contracts 90c and	1.15
Laredo (Magnolia Petroleum Co.)	.85
Rockdale-Minerva (Milam County)	1.25
Calliham (Live Oak-McMullen)	1.15
Webb, Jim Hogg, Zapata	1.00
*High Island	1.20

*Posted by Sun Oil Co.

***Somerset**

Below 30°	1.25
30° to 32.9°	1.35
33° to 35.9°	1.80
36° to 38.9°	1.95
39° to 41.9°	2.10
42° and above	2.35

*Posted by Grayburg Oil Co.

Eastern States

Penna Grade Oil in New York Transit Lines	3.40
Bradford District Oil in National Transit Lines	3.40
Penna Grade Oil in National Transit Lines	3.30
Penna Grade Oil in Southwest Pa. Pipe Lines	3.30
Penna Grade Oil in Eureka Pipe Line Lines	3.25
Penna Grade Oil in Buckeye Pipe Lines	3.15
Cabell Grade Oil in Eureka Pipe Line Lines	2.05
Corning Grade Oil in Buckeye Pipe Line Lines	1.95
Somerset Medium Oil in Cumberland Pipe Line Lines	2.15
Somerset Light Oil in Cumberland land Pipe Line Lines	2.30
Ragland Grade Oil in Cumberland Pipe Line Lines	1.20
Gaines	3.15
Lima	2.23
Wooster	2.15
Illinois	2.02
Indiana	2.03
Princeton	2.02
Plymouth	1.55
Waterloo	1.10
†Oil Springs, Canada	2.95
†Petrolia, Canada	2.88
*Western Kentucky, 36° and above	2.05
*Western Kentucky, 33° to 35.9°	1.95
*Western Kentucky, 32.9° and below	1.85
Cumberland, Barren and Monroe Counties (Kentucky), (Paragon Development Co.)	2.30

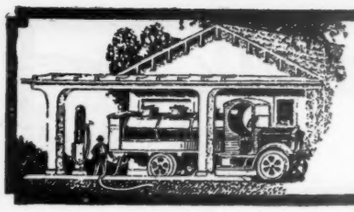
†Plus Government bounty of 26½c.

*Prices for Warren, Allen, Hancock, Simpson and Ohio Counties by Indian Refining Co.

Mexican Crude

*Tuxpam (f.o.b. Mexican ports)	1.35
†Panuco (f.o.b. Mexican ports)	1.25
Tuxpam (New York)	1.99
Panuco (New York)	1.76

*Plus 33.00c tax. †20.00 tax.



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the large marketing concerns, May 12.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service Station	Incids tax of	Tank wagon
Atlanta, Ga.	23.0	26.0	3.0	13.0
Augusta	23.0	26.0	3.0	15.0
Macon	23.0	26.0	3.0	14.5
Savannah	21.0	24.0	3.0	13.5
Birmingham, Ala.	21.0	24.0	2.0	14.5
Mobile	20.0	23.0	2.0	12.5
*Montgomery	22.0	25.0	3.0	15.5
Clarksdale, Miss.	21.0	24.0	3.0	12.0
Jackson	21.0	24.0	3.0	10.0
Natchez	20.5	23.5	3.0	11.5
Vicksburg	20.5	23.5	3.0	11.5
Jacksonville, Fla.	21.0	24.0	3.0	13.0
Miami	23.0	26.0	3.0	14.5
Pensacola	21.0	24.0	3.0	13.5
Tampa	21.0	24.0	3.0	13.0
Lexington, Ky.	21.0	24.0	3.0	14.0
Covington	19.0	22.0	3.0	14.0
Louisville	21.0	23.0	3.0	13.0

*In addition to the State tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline and ½ cent on kerosene.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
Dallas, Texas	17.0	21.0	1.0	12.0
Fort Worth	17.0	21.0	1.0	12.0
Houston	17.0	21.0	1.0	12.0
San Antonio	15.0	18.0	1.0	12.0
El Paso	18.0	21.0	1.0	13.0
Muskogee, Okla.	18.5	21.5	3.0	12.0
Oklahoma City	19.5	22.5	3.0	12.0
Tulsa	18.5	21.5	3.0	11.0
Ft. Smith, Ark.	22.0	25.0	4.0	12.0
Little Rock	22.0	23.0	4.0	10.0
Texarkana	19.0	22.0	1.0	12.0

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
Casper, Wyo.	21.5	23.5	2.5	13.0
Cheyenne	23.0	25.0	2.5	14.5
Albuquerque, N. M.	26.5	29.5	3.0	16.5
Salt Lake, Utah.	24.0	26.0	3.5	18.0
Denver, Colo.	21.0	23.0	2.0	14.5
Pueblo	21.0	23.0	2.0	14.5
Butte, Mont.	23.0	23.0	2.0	16.0
Helena	25.0	27.0	2.0	17.0
Boise, Idaho	24.5	26.5	3.0	20.0

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
Albany, N. Y.	20.0	...	..	13.0
*New York	18.0	...	..	13.0
Buffalo	20.0	...	..	12.0
Rochester	20.0	...	..	13.0
Syracuse	20.0	...	..	12.0
Boston, Mass.	20.0	...	..	13.0
Providence, R. I.	20.0	...	..	13.0
Augusta, Me.	21.0	...	1.0	13.0
Manchester, N. H.	22.0	...	2.0	13.0
Burlington, Vt.	21.0	...	1.0	13.0

*Price in steel barrels.

Note: Standard Oil Co. of New York does not generally quote service station price in its territory. In most cases the service station price is 2 or 3 cents higher than tank wagon price.

PACIFIC COAST DISTRICT

Standard Oil Co. of California

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
San Francisco	17.0	20.0	2.0	15.5
Los Angeles	15.5	18.5	2.0	15.5
Fresno	17.5	20.5	2.0	19.5
Reno, Nev.	20.5	23.5	2.0	19.0
Portland, Ore.	18.0	21.0	3.0	16.5
Seattle, Wash.	17.0	20.0	2.0	16.5
Tacoma	17.0	20.0	2.0	16.5
Spokane	21.0	24.0	2.0	20.5
Phoenix, Ariz.	23.0	26.0	3.0	21.5

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
All Ohio points.	20.5	22.5	2.0	15.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
Omaha	18.0	20.0	2.0	12.5
Crawford	21.0	...	2.0	13.25
McCook	21.75	23.75	2.0	14.0
Norfolk	20.75	22.75	2.0	13.0
North Platte	21.75	23.75	2.0	13.75
Scotts Bluff	21.25	23.25	2.0	13.25

STANDARD OIL CO. (INDIANA)

Main Service Station Price

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
Chicago Dist—				
†100 gals or more	17.0	20.0	..	12.0
Tank wagon prices on April 19, 1922; g. up 1½c; May 8, g. up 1c; June 27, both up 1c; July 19, g. down 2c, k. down 1c; Oct. 10, g. down 2c; Oct. 21, g. down 1c; Feb. 5, 1923, g. up 1c; Feb. 20, g. up 1c; Aug. 14, g. down 6.6c; Oct. 4, k. down 1½c; Nov. 10, g. down 1.4c; Dec. 29, g. up 2c; Jan. 12, 1924, g. up 2c, k. up 1c; Feb. 5, g. up 2c, k. 1c; July 18, g. down 1c. July 30, g. and k. down 1c; Sept. 12, g. down 2c; Jan. 23, 1925, g. up 1c; Jan. 26, g. up 1c; Jan. 31, g. up 1c; Feb. 12, g. up 2c, k. up 1c; April 19, g. down 1c.				
Decatur, Ill.	18.2	20.2	..	12.5
East St. Louis	17.1	19.35	..	11.6
Joliet	18.4	20.4	..	12.7
Peoria	18.2	20.2	..	12.5
Quincy	18.2	20.2	..	12.3
Davenport, Ia.	20.5	23.5	2.0	12.9
Des Moines	20.5	22.5	2.0	12.9
Keokuk	20.5	22.5	2.0	12.9
Sioux City	20.0	22.0	2.0	12.5
Duluth, Minn.	21.5	23.5	2.0	13.6
Minneapolis	21.2	23.2	2.0	13.6
La Crosse, Wis.	21.2	23.2	2.0	13.4
Milwaukee	20.1	22.1	2.0	12.3
Madison	20.3	22.3	2.0	12.5
Detroit, Mich.	20.8	22.8	2.0	13.2
Grand Rapids	20.7	22.7	2.0	13.1
Saginaw	20.9	22.9	2.0	13.3
Evansville, Ind.	21.0	23.0	3.0	12.5
Fort Wayne	21.4	23.4	3.0	12.9
Indianapolis	21.2	23.2	3.0	12.7
South Bend	21.4	23.4	3.0	12.9
Fargo N. D.	20.9	22.9	1.0	15.6
Huron, S. D.	18.0	20.0	3.0	14.1
Sioux Falls	20.5	22.5	3.0	12.8
*Kansas City, Mo.	20.9	22.9	3.0	11.3
*Springfield	20.8	22.8	3.0	12.2
*St. Louis	19.6	21.9	2.5	12.0
*St. Joseph	20.0	22.0	2.5	11.9
Wichita, Kans.	19.8	21.8	2.0	10.8
Bartlesville, Okla	19.9	21.9	3.0	10.9

*State tax is 2c. Remainder is city tax.

†Tank wagon price on less than 100 gallons, 18.0

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
Newark, N. J.	17.0	19.0	..	12.5
Atlantic City	17.0	...	..	12.5
Annapolis, Md.	20.0	...	2.0	11.5
Baltimore	19.0	21.0	2.0	11.0
Cumberland	20.0	22.0	2.0	12.0
Washington, D. C.	19.0	21.0	2.0	12.0
Norfolk, Va.	21.0	23.0	2.0	13.0
Petersburg	21.0	...	3.0	13.0
Danville	21.0	...	3.0	13.0
Richmond	21.0	23.0	3.0	13.0
Roanoke	21.0	23.0	3.0	13.0
Keyser, W. Va.	20.0	...	2.0	13.0
Charleston	19.0	21.0	2.0	13.0
Parkersburg	19.0	21.0	2.0	13.0
Wheeling	19.0	21.0	2.0	13.0
Charlotte, N. C.	22.0	24.5	4.0	14.0
Hickory	22.0	...	4.0	14.0
Mt. Aairy	22.0	...	4.0	14.0
Salisbury	22.0	...	4.0	14.0
Charleston, S. C.	23.5	26.0	5.0	14.5
Columbia	23.5	26.0	5.0	14.5

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero
	Tank wagon	Service station	Incids tax of	Tank wagon
*Pittsburgh, Pa.	19.0	24.0	..	14.0
*Philadelphia	19.0	24.0	..	14.0
*Scranton	19.0	24.0	..	14.0
*Allentown	19.0	24.0	..	14.0
*Altoona	19.0	24.0	..	14.0
*Erie	19.0	24.0	..	14.0
Dover, Del.	21.0	24.0	2.0	14.0
Wilmington	21.0	24.0	2.0	14.0
Springfield, Mass.	20.0	24.0	..	13.0
Worcester, Mass.	20.0	24.0	..	13.0
Boston	20.0	24.0	..	11.0
Providence, R. I.	20.0	24.0	..	13.0
Hartford, Conn.	21.0	25.0	1.0	12.0
New Haven, Conn.	21.0	25.0	1.0	13.0

*Pennsylvania tax of 2 cents is collected by the dealer and paid by him direct to the State.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incids tax of	Tank wagon
New Orleans	18.5	20.5	2.0	11.0
Alexandria	18.5	20.5	2.0	12.0
Baton Rouge	17.0	19.0	2.0	10.5
Lake Charles	18.5	20.5	2.0	12.0
Shreveport	18.5	20.5	2.0	11.0
Memphis, Tenn.	19.0	21.0	3.0	13.0
Chattanooga	20.5	22.5	3.0	12.5
Knoxville	21.5	23.5	3.0	14.5
Nashville	20.5	22.5	3.0	12.5
Bristol	21.0	23.0	3.0	12.5
Little Rock, Ark.	21.0	23.0	4.0	10.0

TANK WAGON PRICE CHANGES

May 7—Standard Oil Co. of New York and Gulf Oil Co. meet the 2-cent reduction made by The Texas Co. in the tank wagon price of gasoline in New York City.

CRUDE PRICE CHANGES

May 1—Producers & Refiners Corp. advances price of Lost Soldier, Wyo., crude 7 cents a barrel.

May 8—Standard Oil Co. of Louisiana advances the price of Smackover crude below 24 gravity 20 cents a barrel.

EXPORTERS AGAIN AID GASOLINE MARKET

(Continued from Page 20)

which was pointed out in the earlier reports of The Oil and Gas Journal covering Mid-Continent refinery operations.

The stock situation in regard to kerosene and gas and fuel oil showed little change in the Mid-Continent. Kerosene stocks decreased slightly and approximately 1,000,000 gallons were added to the fuel and gas oil stocks. The most significant feature of the kerosene situation lies in the fact that while gasoline and fuel oil demand has shown a satisfactory increase this year the total demand for kerosene (domestic demand plus exports), the first three months of this year represented less than one half of 1 per cent. increase over the same period of last year with an actual reduction of 3,729,985 gallons in the domestic demand. With the demand for gasoline and fuel oil increasing crude runs to stills have naturally increased resulting in an enlarged kerosene output not warranted by the demand. Prices generally have been unsatisfactory all year and will continue to be unless refiners reduce the percentage of the product obtained from their crude.

Fuel and gas oil stocks on April 1 were not alarming especially east of California. However, this situation has been changed since April 1, by the bringing in of the new Smackover sands in Arkansas with their tremendous production of low gravity crude. This low gravity crude gives the East a new supply of fuel oil and has already brought important reductions in prices. If this new source of supply had not been discovered some improvement in the fuel oil market situation would probably have been in evidence before now. Just how long the Smackover Field will continue to dominate the situation is problematical.

Gasoline and Naptha

Increases were made in prices of all grades of gasoline this last week. The 58-60, 437 (U. S. Motor) gasoline advanced a half cent to 11-11¼ cents a gallon. Advances in higher gravity gasolines were as outstanding, if not more so, than in the U. S. Motor gasoline. The 60-62 gasolines were quoted ends at 12¼ to 12½ cents, although a few scattering cars of domestic might be obtained under that figure. The 64-66 product is bringing 13¼ to 13½. A few sales have been made at 13¾ cents and one refiner is reported as holding out for 14 cents, saying he could get it. Demand for 56-58, 450 gasoline is increasing as its best season nears. It is being quoted at 10¾ to 11 cents. The bottom price for naphtha is believed 10½ cents while many sales have been made at 10¾ cents.

Kerosene and Distillates

Movement of kerosene is feeling a steady increase, accompanied by a strengthening in prices. The 41-43 water white is firm at 4½ to 4¼ cents, while on the 42-44 grade, most sellers are holding out for 4½ cents. Distillates have been holding as good as might be expected for the season with little tendency toward price charges.

Natural Gasoline and Blends

Scarcity of natural gasolines has been felt materially in prices. The present market condition has resulted in bringing the relative prices together with all grades selling at 11 cents. Within the last 30 days, Grade C has advanced 6 cents a gallon, which is believed to set a record for rapid climbs. Blends, as a consequence of higher naphtha and naturals, has been forced upward. Several sellers of blends have quit quoting because they are unable to fill orders. The market of blends is placed at 10¾ to 11¼ cents.

Fuel Oil and Gas Oil

The boost in the Smackover crude seemed to put a new tone in fuel oil prices. While no material advances in prices have been made, a strong tone permeated the structure and further declines have been prevented, at least temporarily. Group 3 fuel (24-26) is moving at 90 to 92½ cents although some refiners are reluctant to ship at these figures. Lower gravity fuels can be bought for 87½ to 90 cents, although scattering cars might be found as low as 85 cents. The 28-30 fuel is quoted at 92½ to 97½ cents. Gas oil apparently seemed somewhat stronger and some buyers reporting they have been unable to find any of this product without paying an advanced price. Many refiners have no gas oil for any price. This situation is attributed to the fact that more gas oil is being cracked to supply the increased market for motor gasoline.

Lubricants and Waxes

One of the best weeks in many months is reported for all grades of lubricating oils. Although no price changes are reported, the present quotations are very firm. Several large orders for wax were received the past week, all bringing 5 cents a pound and over. There has been a good demand for wax in the East for several weeks.

MID-CONTINENT REFINERY OPERATIONS

(Derived from Bureau of Mines Report)

March, 1925

	No. of Plants	Av. Daily Crude Runs	Gaso. Stocks Apr. 1, '25	Kero. Stocks Apr. 1, '25	Gas-Fuel Oil Stocks Apr. 1, '25
Oklahoma-Kansas	65	250,602	193,124,241	34,094,405	113,316,910
North Central Texas	44	101,488	23,368,548	14,144,814	57,833,794
North Louisiana-Arkansas	14	41,824	5,978,479	822,261	22,796,126
Total	123	393,914	222,471,268	49,061,480	194,044,831

February, 1925

	No. of Plants	Av. Daily Crude Runs	Gaso. Stocks Mar. 1, '25	Kero. Stocks Mar. 1, '25	Gas-Fuel Oil Stocks Mar. 1, '25
Oklahoma-Kansas	64	260,180	158,608,779	32,166,916	113,559,157
North Central Texas	47	105,420	21,307,549	16,816,688	58,812,522
North Louisiana-Arkansas	15	36,946	5,570,181	796,358	21,367,194
Total	126	402,546	185,486,509	49,779,962	193,419,179

March, 1925

	No. of Plants	Av. Daily Crude Runs	Gaso. Stocks Apr. 1, '24	Kero. Stocks Apr. 1, '24	Gas-Fuel Oil Stocks Apr. 1, '24
Oklahoma-Kansas	*	200,937	227,100,013	23,385,162	96,625,305
North Central Texas	*	86,187	24,544,733	16,371,880	56,776,701
North Louisiana-Arkansas	*	27,929	4,793,031	562,346	9,843,325
Total		315,053	255,437,777	40,289,388	163,245,331

*Not given.

SINCLAIR
OILS
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THE SINCLAIR trade-mark does more than identify oils of quality.
It symbolizes the ideals of our Company. It represents our ambition to co-operate with Sinclair dealers to attain mutual growth.
Sinclair dealers know that it also represents our obligation to maintain their prestige with a product as conscientious as their service.
We stay behind the obligation — and the trade mark guarantee: —
Your money's worth or your money back.
SINCLAIR REFINING COMPANY
NEW YORK
Sinclair Oil Bldg., 45 Nassau St.
Telephone: Rector 9320
CHICAGO
22nd and Rockwell Streets
Telephone: Crawford 2000
Cable Address: "Lucent"
SINCLAIR OILS

Ad No. 10

GULF COAST

(Continued from Page 142)

Oil Co.'s No. 1 on the banks of Cow Bayou will make a pumper at 3,925 feet and the Sinclair Oil & Gas Co.'s No. 2 Granger will do the same as 3,320 feet. The Monarch Oil & Refining Co. (Peer Oil) No. 5 Galliere is showing some oil and gas at 3,300 feet.

Deep tests drilling in the Orange Pool include the Rycade Petroleum Corp.'s No. 5-A Cow Bayou, below 4,640 feet. The Humble Oil & Refining Co.'s No. 21-B Chesson, deepening below 5,350 feet; its No. 11 Winifree, around 4,335 feet; Sun Oil Co.'s No. 6 Gunstream, drilling around 5,000 feet and its No. 3 Brown, deepening at 4,570 feet. Gulf Production Co.'s No. 4-A Chesson is below 4,900 feet.

Other wells drilling are: Brownie Babbittee Oil Co.'s No. 1 McLean, sidetracking at 3,235 feet; Orange Petroleum Co.'s No. 11 Chesson, 2,740 feet, and Mutual Oil Co.'s No. 4 Chesson below 2,765 feet, with No. 12 around 2,900 feet, and No. 14 at 3,266 feet. Supreme Oil Co.'s No. 1 Jackson is milling at 2,755 feet. Edgerly Petroleum Co.'s No. 1 Cornier is at 1,234 feet and No. 5 Carbello at 2,765 feet. Atlantic Oil Producing Co.'s No. 1 Hager is deepening at 3,276 feet. Kishi Development Co.'s No. 6 McGuire is at 655 feet. Gulf Co. is rigging No. 9 Peveto and No. 3 Hamman-Consolidated and fishing in No. 14 Hager fee. Of the 16 wells drilling in that pool six of them are 4,300 feet.

Hull Pool

The southeast and southwest sides of the Hull Dome furnished the best wells there last week. On the southeast, Gulf Production Co.'s No. 50 Phoenix came in at 3,400 feet flowing 2,500 bbls. with 40 feet of strainer set. Its No. 51 Phoenix is flowing 300 bbls. by heads at 2,800 feet. On the southwest, The Texas Co.'s No. 3 Hannah came in at 3,230 feet flowing 2,500 bbls. The Texas-Vacuum Oil Co.'s joint No. 4 Hannah started off at 500 bbls. by heads at 3,220 feet.

The Gulf Production Co. has now approximately 9,500 bbls. per day of the total output of the pool. The Humble Oil & Refining Co.'s No. 2 Merchant, on the northwest side, which came in last week making 3,000 bbls., increased its flow to 5,000 bbls. for 48 hours and then dropped off. At the close of the week it was credited with 600 bbls. per day at 4,150 feet.

Hardin County Pools

In the Batson Pool, the Ada Belle Oil Co.'s No. 94 Davis is a 20-bbl. pumper at 1,025 feet. The East Batson Oil Co.'s No. 13 State land is drilling around 1,100 feet and the Paraffine Oil Co.'s No. 40 Paraffine at about the same depth.

In the Saratoga Pool, the Rio Bravo Oil Co.'s No. 1 Fountain, in the new deep sand extension on the north side, is drilling at 3,110 feet and No. 2 Fountain at 2,710 feet. Gulf Production Co.'s No. 1 Wells is below 2,815 feet. Yount-Lee Oil Co. set 6⅝-inch casing in No. 1 Parrish at 3,250 feet. Paggi Brothers' No. 2 Brooks is drilling around 850 feet and its No. 4 Hauk is rigging up. The Weldon Oil Co.'s No. 5 Bradley is fishing. The sand was found by the Rio Bravo on the north side at 2,669 feet, but the tests on the Fountain and the Wells leases are below that depth.

In the Sour Lake Pool, the McNamara Oil Co.'s No. 12 Bashara is a 30-bbl. pumper at 2,060 feet. The Barkley Oil Co. has rigged No. 1 fee there.

Other Pools

The Humble Oil & Refining Co.'s No. 13 Ryndale-Wyoming in the shallow sand section of the West Columbia Pool will make a pumper at 380 feet. The company is rigging up No. 14 and drilling No. 2 L. J. Wilson below 1,235 feet. The Hyde Production Co.'s No. 1 Lee is drilling around 1,345 feet.

In the Blue Ridge Pool, the Gulf Production Co.'s No. 8 Luscher is drilling at 4,045 feet and its No. 11-C Blakely is rigging. The Texas Co. has a derrick up for No. 13 Robinson on the northwest side of the dome.

At Pierce Junction, Snowden & McSweeney's No. 8 Cain is working over. The Texas Exploration Co .worked over No. 7 Dooley and set a liner at 3,713 feet. H. R. Cullen's No. 6 Howe is milling at 3,910 feet.

South Louisiana Pools

In the Edgerly Pool, the Roxana Petroleum Corp.'s No. 1 Hunter is bailing at 5,290 feet. G. W. Gray's No. 11 Lilliard is fishing at 1,560 feet.

In the Lockport district, near Lake Charles, the Marland Oil Co.'s No. 1 Government land is drilling below 4,815 feet. A location has been made for No. 1 Phoenix. The Vacuum-Gulf Co.'s joint No. 2 Miller is at 4,400 feet and No. 3 Miller at 3,420 feet. No. 1 Farquhar is a fishing job. No. 1-B Phoenix is waiting for a rig to start drilling.

The United Gas & Oil Co.'s No. 1 Bayless is drilling in Iberia Parish.

Coastal Wildcats

The Texas Co. abandoned Nos. 1 and 2 Coons in the Chocolate Bayou region of Galveston County at 1,000 feet in a water sand. At High Island Dome in the same county the Gulf Production Co. set 6⅝-inch casing in No. 2 Smith around 3,250 feet. It is on the north side of the dome, between it and the Gulf of Mexico.

At Hockley Dome, in Harris County, The Texas Co.'s No. 1 Warren ranch is drilling below 3,625 feet and No. 3 Warren is at 1,715 feet. The Roxana Petroleum Corp.'s No. 1 Rosenthal, east of Green's Bayou, is around 2,200 feet. The La Porte Oil Co.'s No. 2 Grimes, near La Porte and across the bay from the Goose Creek Pool, is around 2,655 feet. The test at Seabrook is shut down.

Drilling Operations

The test on the Hunt acreage, 8 miles north of Goose Creek, will resume drilling from 2,200 feet. It has been idle for months. Katter and others, west of Humble, are drilling No. 1 at 2,300 feet, with a location for No. 2 about 1 mile south. The Republic Production Co.'s No. 1 Stark, north of Orange, is around 2,800 feet. The Humble Oil & Refining Co. is starting the first of a series of formations near Hartsburg, 10 miles northeast of Orange.

In Jefferson County, at Big Hill, the Houston Oil Co.'s No. 10 Pipkin is at 2,900 feet, and No. 2 Sun-Davis is below 1,420 feet. Paggi Brothers No. 2 Wilson, south of China, is drilling at 1,700 feet.

The deep test of the Marland Oil Co. at Shepherd Dome in Matagorda County is below 5,310 feet. The Shepherd Dome Oil Co.'s No. 1 Hawkins is at 1,375 feet. At Boling Dome in Wharton County, the Gulf Production Co.'s No. 3 Fuller is at 4,075 feet, and The Texas Co.'s No. 1 Taylor, around 1,345 feet.

In Fort Bend County, the Neilan Oil Co.'s No. 1, near Besley, is waiting on a heavy rig at 1,750 feet. The Gulf Production Co.'s No. 4 Moore Dome, is at 1,170 feet, and the Pathfinder Oil Co.'s No. 2 Pinkney at 2,550 feet. The Marland Oil Co.'s No. 1 Lockwood is drilling around 1,000 feet with No. 1 Spencer rigging. The Rycade Petroleum Corp.'s No. 1 Nash, off the Wisdom Dome, is drilling around 4,023 feet, and No. 1 Meier is changing to a heavier rig. No. 1 Moore is rigging.

In Chambers County, Rucker's No. 1 Fisher is at 1,154 feet. Sam J. Hindman abandoned No. 1 Coller on the east side of Barber Hill Dome.

In Jackson County, the Houston Oil Co.'s No. 1 Rose, west of Edna, has started drilling as a gas proposition and No. 2 Rose, 1 mile north, is rigged to start. This company has also started No. 1 Westhoff. The Jackson County Syndicate's No. 3 Drushell is at 2,435 feet.

In Montgomery County, L. F. Sprague and others' No. 1 was abandoned at a shallow depth, and No. 2 is drilling at 880 feet. It is near Willis. In Walker County, the Ridge Oil & Gas Co.'s No. 2 Eastham is at 880 feet. The Bettis Oil Co.'s No. 1 in Waller County, near Hempstead, is at 875 feet.

In Brazoria County, the Bryan Production Co.'s No. 1 Chester is drilling below 3,640 feet. Gayle and others' No. 1 Dunsmor, 6 miles south of Angleton, is idle. Boyd and others' no. 1 Russell is around 1,500 feet.

In Grimes County, Cutherall's No. 3 Ruth is a gas blow out around 2,800 feet. It is near Carlos and is the second gas blow out there. No. 4 Ruth is drilling at 2,415 feet, and No. 5, a shallow hole, is at 545 feet. L. F. Causland's No. 1 Dodd, west of Iola, is at 2,900 feet.

Milam County

In the shallow sand section of Milam County, Wallace & Jones' No. 1 is a 20-bbl. pumper. The Ruby Oil Co.'s No. 4 is making 25 bbls., and Fritz Fuch's No. 7 Henry is pumping 10 bbls. The Noack Oil Co. has started No. 7 Sterlsky, and the Bynum Oil Co. No. 11 Isaacs.

Jim Hogg County

The Magnolia Petroleum Co.'s No. 6 Thompson, in Jim Hogg County, is pumping 80 bbls. at 2,006 feet, and Kisselaman and Stalbans' No. 9 Holbein is good for 100 bbls. The Plateau Oil Co.'s No. 4 Martinez is swabbing 250 bbls. at 2,035 feet.

Laredo Districts

T. G. Binney set casing in No. 3 east of Miraudo City at 1,870 feet. The Elsworth Oil Co.'s No. 6 Garcia is drilling.

In Jim Hogg County, the Buchanan-Plateau Co.'s No. 3 has casing set. Buchanan and others' No. 4 is around 1,955 feet. The Big Bend Oil Co. set casing in No. 5 Martinez. No. 6 is drilling below 1,235 feet. The Plateau-T. P. Oil & Coal Co.'s Nos. 2 and 5 Freeman are drilling. Casing has been set in No. 6. The T. P. O. & C.-Elliott, joining No. 2, is below 2,300 feet. Derricks are up for the Plateau-Wheat Nos. 3, 4 and 5 Holbein. The Texo Oil Co.'s No. 4 Lopez is below 1,545 feet.

In Bastrop County, Donald Clark's No. 1 Hicks is drilling, 12 miles northwest of Bastrop. The Calvin Co.'s No. 1 is rigging 4 miles north of Bastrop. C. V. Patten has a location for No. 1 Welchmeyer.

The deep test of the Magnolia Petroleum Co. on the Kimes acreage in Milam County, is drilling around 1,875 feet.

OKLAHOMA

(Continued from Page 40)

Oil Co. has a rig on the ground for No. 1, CNL NE NW SE Section 13-23-8.

The American Oil & Development Co. is building the rig for No. 19, CSL NE Section 13-23-10. The Superior Oil Corp. is building the rig for No. 1, NE cor. SW Section 8-22-9. The Atlantic Oil Producing Co.'s No. 3, NW cor. SE Section 8-22-9, topped Mississippi lime at 2,285 feet. First break 2,354-57 feet, total depth 2,360 feet. It is estimated good for 25 bbls.

Frank M. Breene and others have completed No. 3, CSL SE Section 31-22-11. Sand was 2,218-30 feet and the well is good for 40 bbls.

The Delmar Oil Co. has a machine rigging up in No. 1, SE cor. NW Section 33-25-11. The Plymouth Petroleum Co. has completed a Bartlesville sand well in No. 1, NE cor. SW Section 33-35-11. Sand was 1,730-1,852 feet with first oil at 1,764 feet. The well was plugged back to 1,825 feet and shot with 210 quarts. It made 200 bbls. the first 12 hours.

The Barnsdall Oil Co. has completed No. 5, C south half NW SE Section 24-21-8. The Bartlesville sand was dry from 2,286-2,314 feet, and the well was plugged back to the Layton sand 1,158-82 feet. It was shot with 90 quarts and is good for 10 bbls.

The Skelly Oil Co. and the Ohio-Osage Oil Co.'s No. 1, CSL SE Section 3-21-9, had Bartlesville sand 2,238-2,313 feet; first oil at 2,292 feet. It was shot with 20 quarts and is good for 40 bbls.

The Alcorn Oil Co. and others' No. 3, CNL NW SW Section 24-21-9, is dry and abandoned at 2,672 feet. Soverland and others are moving in a rig for No. 1, NW cor. SW NW Section 19-21-10. The Mid-Continent Petroleum Co. and others' No. 1, NE cor. SE Section 21-21-10, is dry and abandoned at 2,110 feet.

The Texas Co. is rigging up for No. 15, NW cor. NW Section 18-27-6; and rigging up for No. 16, CNL NE NW NW Section 18-27-6. The Carter Oil Co. is building the rig for No. 5, SW cor. NE NE Section 20-26-6.

The Lewis Oil Co. is rigging up No. 6, SW cor. NE NE Section 21-26-6.

Tulsa County

The Williams-Wood Syndicate's No. 1-A SE cor. SW NE Section 36-19-11, had the Taneha sand 1,605 feet, oil 1,610-27 feet, total depth 1,700 feet, still in sand. It was shot with 80 quarts and had a 5-bbl show.

The Echo Oil Co.'s No. 1-A, NW cor. SE Section 9-19-12, had Wilcox sand 1,921-27 feet, show in the Turkey Mountain sand 2,039-44 feet, total depth 2,00 feet. It was plugged back to the Turkey Mountain sand and is pumping 15 bbls.

Thornton and others' No. 2-A, SW cor. NE NW Section 20-19-12, had oil 2,095-2,139 feet, was shot with 30 quarts and is good for 80 bbls.

F. A. Gillespie's No. 3, C NW NE Section 31-19-12, is dry and abandoned at 2,385 feet.

The Shaffer Oil & Refining Co.'s No. 5, NW cor. Section 5-19-12, had sand 2,000-05 feet, total depth 2,057 feet, and good for 39 bbls. natural. Munn Brothers' No. 3, CEL SE SW SW Section 20-19-12, is spudded. H. C. Wilson has a rig on the ground for No. 4-A, SW cor. NW Section 29-19-12. The Nowata Oil & Refining Co.'s No. 3, SE cor. NE Section 30-19-12, had sand 2,107-56 feet, was shot with 30 quarts and is good for 25 bbls.

Lillystrand's No. 4, CSL SW SE Section 34-18-14, has sand 1,300-85 feet and is good for 3,000,000 feet of gas.

E. R. Minshell has completed No. 1, SW cor. NW SE Section 9-18-13. Oil was 1,206-21 feet, shot with 40 quarts, it is good for 30 bbls. Same operator has a machine in for No. 2, CWL NW SE Section 9-18-13.

Payne County

The Olean Petroleum Co. is underreaming 12-inch casing at 850 feet in No. 1, NW cor. NW Section 24-19-4. The Mulberry Oil Co. has completed No. 1, NW cor. SW SW Section 32-18-4. Gas sand 3,680-3,700 feet, and the well was shut in with 12,000,000 feet of gas.

The O'Kansas Oil Co. has a rig up for No. 2 Blue, SW cor. NW SE Section 7-18-5. The Josey Oil Co. in No. 1, CNL NE Section 11-18-5, has shut in 5,000,000 feet of gas from sand 3,002-3,103 feet. Wheeler & High have a rig up for No. 1 NE cor. SW Section 11-18-5. The Home Gas Co. has a rig up for No. 1, NE cor. SE Section 14-18-5.

The Magnolia Petroleum Co. has completed No. 1 Payne, C NE NE Section 6-17-4, for 9,000,000 feet of gas from 2,112-22 feet. Hughes and others' No. 1-A Munn, SW cor. NW Section 1-17-5, is dry and abandoned at 1,760 feet.

Pawnee County

F. J. Searight has a rig on the ground for No. 1, NW cor. NW NE, Section 20-22-6.

The Magnolia Petroleum Co.'s No. 5, SE cor. SW SE, Section 16-20-6 is spudded. Westerly and others' No. 6 Smith, SE cor. NE, Section 22-20-6 has 1,000 feet of oil in the hole from sand at 3,048-76 feet, water from 3,076-78 feet, fishing for lost tools.

Adamson and others' No. 4, SW cor. NW SW, Section 32-21-8 had a 25-bbl. show in the Tucker sand at 2,630-35 feet. They are drilling ahead at 2,800 feet.

The Superior Oil Corp. has completed No. 1 Gillespie, SW cor. NW NE, Section 9-20-7; gas sand was at 2,585-2,630 feet, water at 2,751-53 feet, total depth. The water was plugged off and the well plugged back to 2,751 feet and shut in for 5,000,000 feet of gas.

Ed Reese and the Sun Ray Oil Co. have completed No. 1-A, NE cor. NE, Section 20-20-7; oil was at 2,640-56 feet, total depth 2,657 feet. It was shot with 20 and 30 quarts and is good for 40 bbls.

The Southwestern Oilfields Co. has a rig up for No. 13, SE cor. SW NW, Section 24-20-8.

Seminole County

Flynn & Morgan have a rig on the ground for No. 1, a wildcat test in the NW cor. SE, Section 10-9-5.

The Superior Oil Corp. is drilling at

450 feet in No. 1 Noble, NW cor. NE NW, Section 15-9-6.

Roxana Pool

The Sinclair Oil & Gas Co. has completed No. 1 Manley, SE cor. SW NW, Section 1-8-8. Sandy lime was 3,975-4,103 feet, and the well is good for 40 bbls. naturally.

At Wewoka

The Prairie Oil & Gas Co.'s No. 1 Saldina has been completed for 1,500 bbls. from sand at 3,260-64 feet. It is NE cor. SW NE, Section 31-8-8. W. R. Ramsey's No. 2 Amos, NW cor. SE SE, Section 31-8-8 had sand at 3,229-33 feet, and is good for 32 bbls. per hour. It will probably be drilled deeper.

Yeager Pool

The Independent Oil & Gas Co. and Amerada Petroleum Corp. have a rig on the ground for No. 1, NE cor. NW, Section 18-8-10. The Independent Oil & Gas Co. and others have the rig and tools on the ground for No. 1, SW cor. SE SE, Section 18-8-10 and are building the rig for No. 2, NE cor. SE SE, Section 18-8-10.

South Welcetka Pool

The Tidal-Osage Oil Co.'s No. 1, SW cor. NW, Section 3-9-11 had 1,000,000 feet of gras from sand at 1,479-1,510 feet, drilling at 1,650 feet. No. 5 Baker, SW cor. SW SW, Section 3-9-11, had an 80-bbl. show from sand at 2,885-2,912 feet, drilling at 2,938 feet; completed No. 7, NE cor. NW SE, Section 4-9-11, pay sand at 2,955-62 feet, broken sand at 2,962-80 feet. Shot with 10 quarts it is good for 140 bbls. The same company's No. 1, SE cor NE, Section 4-9-11, is drilling at 1,927 feet.

Lincoln County

The Douglas Oil Co. has a failure in No. 1 NW cor. NW, Section 7-13-3 at a total depth of 3,000 feet. The same company will drill a twin well to No. 1 in the same section. It is No. 1-A, CNL NW NW NW, Section 7-13-3.

Oklahoma County

The Maxine Petroleum Co. has spudded for a wildcat test, No. 1, NW cor. NE NW, Section 9-14-1w. It is being drilled with a rotary.

Caddo Coupnty

Briscoe & Hall are drilling at 1,647 feet in No. 4, NW cor. NE NE, Section 6-5-9w.

Stephens County

Grimes & Russel's No. 1, NE cor. SW, Section 31-1-4w is dry and abandoned at 3,525 feet. E. P. Kilgore has completed No. 1, NW cor. SW NE, Section 21-1-5w, sand 1,165-76 feet, good for 10 bbls. and some water.

The Magnolia Petroleum Co.'s No. 3 Bond, NW cor. SE NW, Section 19-1-5w, is dry and bandoned at 2,105 feet.

Clark & Cowden are drilling at 100 feet in No. 1, CSL SE SE, Section 24-1s-8w. The Skelly Oil Co. is spudded in No. 3 NE cor. NW SW, Section 30-1s-8w.

Carter County

The Magnolia Petroleum Co. has completed No. 1, SW cor. SE, Section 18-1s-3w, good for 15 bbls. from sand at 3,080-90 feet, 60 bbls. from sand at 3,130-45 feet, 1,000,000 feet of gas from 3,170-75 feet, 25 bbls. from sand at 3,180-85 feet. Total depth is 3,210 feet, and the well is flowing 100 bbls.

Simpson & Fell's No. 1 Ashton, SW cor. NW, Section 27-1s-3w, is dry and abandoned at at 3,465 feet. The Magnolia Petroleum Co. is drilling at 120 feet in No. 1, NE cor. SE NE, Section 32-1s-3w.

The Cotton Belt Oil Co.'s No. 6 Ellis, NE cor. SW NW, Section 30-2s-2w, had broken sand at 2,152-2,200 feet, sand at 2,275-2,314 feet, and is swabbing 350 bbls. Wirt Franklin is spudding No. 2-A C N half NE NE Section 25-2s-3w. Rockland Oil Co.'s No. 11, NW cor. NE SE, Section 34-2s-3w, is dry and abandoned at 2,503 feet.

Cotton County

Raymond Carter and others' No. 1, NE cor. SE, Section 28-2s-13w is dry and abandoned at 2,512 feet.

Love County

Simms Petroleum Co.'s No. 1-A NE cor. SE NE, Section 29-6s-3 is dry and abandoned at 3,447 feet.

Jefferson County

Anderson Hapgood's No. 1, SW cor. NE, Section 31-6s-5w, is dry and abandoned at 1,645 feet.

The Prairie Oil & Gas Co.'s No. 1, SW cor. NE SW, Section 34-6s-5w is drilling at 436 feet.

Muskogee County

E. C. Lampton's No. 1 CEL, NE NE Section 13-15-17, is dry and abandoned at 1,251 feet.

LARGE INCREASE IN MOTOR FUEL DEMAND

(Continued from Page 22)

pression of the head of one of the largest export companies. He and others explained that there was so much price cutting in foreign markets for certain business that their regular customers had practically withdrawn from the market.

Russia a Factor

This exporter and others stressed the constantly increasing importance of Russia as a factor in the export market. This applied not only to gasoline but other products especially lubricating oils. One exporter who specializes in lubricants said that the Russian competition was especially apparent in that class of business. Lubricants satisfactory to the foreign consumers are being sold at prices which make it difficult for American sellers to compete. The Russians do not make a varied line of lubricants and in certain classes of business they are not a factor. But they are furnishing a large supply for the industries, especially in Germany.

One exporter whose organization is in touch with foreign markets everywhere predicted that Russia and other foreign oil interests would probably absorb any increase in the total demand for refined products in European countries this year so that the demand from United States would be approximately the same as last year Under the present regime the Russian oil industry is gradually being stabilized with important enlargements in both refining and marketing facilities. As long as this improvement continues exporters look for more and more competition from Russia which despite its large crude supplies has played a minor role in petroleum markets since the World War.

Fuel Oil

Due partially to the heavy production of low gravity crude fuel oil markets generally were reported soft. Although the production of heavy Smackover crude has been a factor recently those in touch with the market state that the market has been weakening practically all year.

Bunker fuel prices have been maintained fairly firm but at the present time these prices are of little consequence except in contracts. Scattered sales at prices considerably under those established by the larger companies are being made with the outlook for the immediate future at least, pointing to still lower prices.

As in the case of gasoline there was little complaint to find with the actual consumption of fuel oil. Coal competition was stressed, however, whenever the subject was discussed. An official of one of the largest anthracite companies in an interview says that bituminous coal competition has forced his company to keep its mines closed the greater part of the year. The bituminous operators have reduced their prices to the point where anthracite competition is impossible in many instances. The bituminous operators on the other hand point to the competition of fuel oil as being responsible for their prices which are exceptionally low.

Despite the low prices it is apparent that the residuum product of petroleum refining is more than holding its own in competition with coal. Eastern market observers are not expecting any improvement in the price until the flood of low gravity crudes has passed.

NORTH CENTRAL TEXAS

(Continued on Pake 153)

& Gas Co.'s No. 10-A Wilson, drilling in at 1,555 feet.

Young County Drilling

Anderson and others' No. 1 Dunagan, drilling at 910 feet; Burton and others' No. 1 Meyers, 360 feet; Christie Brothers' No. 4 McLaren, 2,310 feet; Consolidated Oil Co.'s No. 1 Bullock, 870 feet; Dunn and others' No. 1 Craig, 3,470 feet; F. H. E. Oil Co.'s No. 1 Dunagan, 930 feet; Flowers Brothers' No. 1 Farmer, 1,035 feet; Gwynn and others' No. 1 Faith, 1,310 feet; Hinson and others' No. 1 Laquey, 2,240 feet; Holder and others' No. 1 Johnston, 525 feet; Humble Oil & Refining Co.'s No. 16 Schlegel, setting casing at 1,165 feet; No. 18 Schlegel, drilling at 240 feet; Lea and others' No. 1 Vernon, 670 feet; McQuain and others' No. 1 Donnell 330 feet.

Stephens County Drilling

Humble Oil & Refining Co.'s No. 6 Keel, fishing at 3,110 feet; Mid-Kansas Oil & Gas Co.'s No. 13 Hill, Account 1, drilling at 2,470 feet; No. 16 Hill, 650 feet; Oliver Oil & Gas Co.'s No. 1 Bascom, setting casing at 3,840 feet; Pender Production Co.'s No. 5 Keel, drilling at 2,906 feet; Phillips Petroleum Co.'s No. 1 Allen, 2,310 feet; Roeser and others' No. 5 Bell, 2,135 feet; Rosell Production Co.'s No. 2-B Brown, has gas showing at 3,120 feet; Sun Oil Co.'s No. 5 Stoker, drilling at 1,470 feet; Texas Consolidated Oil Co.'s No. 6 Martin, 3,800 feet; Texas Pacific Coal & Oil Co.'s No. 4 Kirtley, 1,470 feet; Barkley and others' No. 2 Pritchard, 200 feet; Buckeye Pipe & Supply Co.'s No. 1 Pisgah Church lot, underreaming.

Eastland County Drilling

Allen and others' No. 1 Allen, spudding; Carter and others' No. 5 Langford, drilling at 350 feet; Corzelius Brothers' No. 1 Brewer, 725 feet; Hoffman and others' No. 1 Lyerla, 850 feet; Kirk and others' No. 1 Blackman, spudding; No. 6 Shugart, fishing at 2,877 feet; Mid-Kansas Oil & Gas Co.'s No. 10 Harrell, Account 2, drilling at 3,385 feet; Mook-Texas Oil Co.'s No. 4 Harrell, spudding; No. 1 Williamson, drilling at 2,910 feet; Prairie Oil & Gas Co.'s No. 22 Roper, 1,770 feet; Reclamation Oil Co.'s No. 6 Bond, fishing, 1,725 feet: No. 7 Bond. fishing, 1,900 feet; Sinclair Oil & Gas Co.'s No. 8 Davis, drilling 765 feet; States Oil Corp.'s No. 7-A Loper, setting casing at 1,864 feet.

Brown County Drilling

Canyon Oil & Gas Co.'s No. 3 Ellsbury, setting casing at 980 feet; Gillman and others' No. 3 Moore, drilling at 1,030 feet; Honea and others' No. 2 DeBusk, fishing at 2,345 feet; Malay and others' No. 1 Prather, spudding; McMurray and others' No. 5 Newton, drilling in at 1,272 feet; Moore and others' No. 1 Gafford, drilling sand at 1,280 feet; No. 1 Chambers, setting casing at 1,160 feet; Moore and Wilson's No. 2 Gafford, setting casing at 1,160 feet; Moore & Wilson's No. 2 Gafford spudding; No. 3 Westerman, drilling at 450 feet; Ward Oil Co.'s No. 1 Windham, 1,490 feet.

Reagan County Drilling

Big Lake Oil Co.'s No. 17 University, drilling by tools at 2,440 feet; No. 19 University, drilling at 2,765 feet; No. 20 University, fishing at 2,500 feet; No. 24 University, setting casing at 2,900 feet; No. 26 University, drilling at 640 feet; No. 27 University, 1,225 feet; No. 28 University, 300 feet; No. 29 University, 480 feet; California Co.'s No. 1 University, bailing at 3,778 feet; Cogdell and others' No. 1 University, drilling at 485 feet; Texon Oil & Land Co.'s No. 10 Group 1 University, 2,425 feet; No. 12 Group 1 University, fishing at 2,490 feet: No. 13 Group 1 University, drilling at 525 feet.

Wildcats Drilling

Hutchinson County—Amarillo Oil Co.'s No. 2-B Bivins, underreaming; Dixion Creek Oil Co.'s No. 2 Smith, drilling at 1,160 feet; Middleton and others' No. 1 Weatherly, 800 feet; Panhandle Refining Co.'s No. 1 Perkins, 2,340 feet; Prairie Oil & Gas Co.'s No. 1 Shaw, 3,460 feet.

Carson County—American Refining Co.'s No. 1-C Burnett, setting casing at 1,819 feet; Crosbie Oil Co.'s No. 2 Burnett, standardizing at 2,821 feet; Magnolia Petroleum Co.'s No. 1 Burnett, drilling at 1,190 feet; Olson Brothers' No. 1 Burnett, 2,969 feet; Silk and others' No. 4 Burnett, drilling in salt at 900 feet; The Texas Co.'s No. 3 M. C. Burnett, drilling in lime at 1,875 feet.

Gray County—Anderson and others' No. 1 Beavers, drilling at 2,820 feet; Clark and others' No. 1 Combs & Worley, fishing at 2,880 feet; Danciger Oil & Refining Co.'s No. 1 Bowers, drilling in lime at 2,580 feet; Wilcox and others' No. 1 Combs & Worley, setting casing at 2,342 feet.

Wheeler County—Angus and others' No. 1 Elmer, spudding; Texhoma Oil & Refining Co.'s No. 1-A Jackson, drilling at 1,480 feet; Whittington and others' No. 1 Porter, 700 feet; No. 1 Nicholson, 1,350 feet; Vaughan and others' No. 1 Krey, underreaming.

Knox County—Sanders and others' No. 1 Lawson, drilling at 1,400 feet.

Baylor County—Jones and others' No. 1 Bassett, drilling at 1,675 feet; Sheldon and others' No. 1 Mills, spudding new hole; Dyer and others' No. 1 Cox, drilling at 1,290 feet.

Clay County—O'Neil and others' No. 1 Alcorn, drilling at 1,510 feet; Lone Star Gas Co.'s No. 2 Magnolia Petroleum Co., cementing casing at 1,634 feet; No. 23 Martin, drilling at 1,425 feet; No. 17 Stine, 1,600 feet.

Montague County—Daniels and others' No. 2 Salmon, drilling at 300 feet; Humphreys Corp.'s No. 1 Hinton, 815 feet; No. 2 Maddos, 1,565 feet; No. 2 Jones, 768 feet; Owenwood Oil Corp.'s No. 1 Salmon, 1,465 feet; The Texas Co.'s No. 1 Howard, underreaming.

Cooke County—Gadley Oil Co.'s No. 1 Florence, drilling at 1,020 feet; Pettitt and others' No. 1 Nelson, fishing at 2,620 feet; Rawson and others' No. 1 Aldridge, fishing at 2,725 feet; Red River Drilling Co.'s No. 1-A Jones, drilling at 2,018 feet.

Grayson County—Clopton and others' No. 1 Thorne, drilling at 1,830 feet; Whitesboro Oil & Development Co.'s No. 1 Anderson, 1,425 feet; The Texas Co.'s No. 1 Cannon, 2,448 feet.

Throckmorton County—Domestic Oil Co.'s No. 1 Gober, drilling at 680 feet; Downing and others' No. 1 Ewalt, 1,130 feet; Flowers Brothers' No. 1 Travis County, 1,095 feet; Gwynn and others' No. 1 Portwood, 1,270 feet; Hill and others' No. 1 Polk County, 560 feet; Humble Oil & Refining Co.'s No. 1 King, 1,530 feet; Sheldon and others' No. 1 Whittiker, 1,110 feet.

Kent County—Greenwood and others' No. 1 Kuteman, drilling at 1,490 feet.

Shackelford County—Hope Petroleum Co.'s No. 3 Jeter, underreaming; No. 1 Moberly, showing oil at 982 feet; No. 1 Reynolds, drilling at 965 feet; Landreth Production Co.'s No. 2 Kendrick, 300 feet; No. 1 Moberly, underreaming; McLean Drilling Co.'s No. 1 Matthews, drilling at 440 feet; Phillips Petroleum Co.'s No. 12 Poindexter, 3,588 feet; Tonnehill and others' No. 12 Moberly, 810 feet.

Palo Pinto County—Singleton and others' No. 1 Smith, drilling at 2,707 feet; Burton and others' No. 4 Strawn Coal Co., underreaming; Dalton and others' No. 1 Perkins, drilling at 1,650 feet; Pender Production Co.'s No. 1 Rosmussen, 2,000 feet.

Mitchell County—Eastland Oil Co.'s No. 1 Clark, drilling at 3,080 feet; Sloan and others' No. 6 Smart, 1,575 feet; No. 7 Smart, 2,000 feet; California Co.'s No. 1 Elder, Lease 1, 3,075 feet; No. 3 Elder, Lease 2, 1,910 feet; Thompson and others' No. 1 Adams, 2,840 feet; West Texas Petroleum Co.'s No. 4 Miller, 2,600 feet.

Upton County—Regan and others' No. 1 University, drilling at 1,250 feet; Campbell and others' No. 1 University, 650 feet.

REOPEN TETRAETHYL PLANT

NEW YORK, May 12,—New Jersey's State Commisioner of Labor announced today that his department, believing tetraethyl lead can be manufactured safely, was permitting the reopening of the new $2,000,000 tertaethyl unit of Duponnt Co.'s plant at Deepwater.

TEXAS FAULT ZONES STILL MYSTIFYING

(Continued from Page 21)

date nothing but gas on as good a fault from a geological standpoint as those north and south of it. And that is but a sample of many unaccountable peculiarities.

Despite the fact that drillers have put large round holes in most of the geological theories about the fault zone which have been built up during the past two years, and future drilling may disprove those that are still held. There is one theory at least which is worth presenting because it has so far borne a charmed life and has remained intact. It is the "neutral zone" theory, first suggested at the Houston meeting of the American Association of Petroleum Geologists last year, by R. B. Whitehead, but which has never been published before.

Mr. Whitehead's Belief

More than $5,000 was spent in water analysis and other research in the proven fault fields and in wildcat wells throughout the surrounding country and Mr. Whitehead concludes from a study of the data obtained that a neutral zone of migration exists in the Woodbine sand between a downward migrating head of water from the outcrop and an upward migrating head of connate waters, both of which are under hydrostatic heads; that a deep-seated source of oil and water is known to exist at Kosse below the stratigraphic position of the Woodbine sand; that at Luling, the water coming up the fault plane may have its source in the Trinity series or lower horizons; that a fault of sufficient throw occuring along the Mexia-Powell-Luling fault zone, which would displace porous members, either sand or lime, would arrest further migration of original waters; that providing the ressure of the water coming up the fault plane counterbalances the pressure of the original water found in the Woodbine sand and Georgetown limestone adjacent to the fault, any oil carried with the water up the fault plane could accumulate in this neutral pressure zone; that if a fault and sand body are found up dip from this neutral zone, the effect of the downward migrating meteoric waters could flush out the oil, while a fault and sandy body down dip from this neutral zone would come under the influence of the hydrostatic head of connate waters from the east and likely would flush out the oil unless some exceptional condition of folding or faulting existed.

It is interesting to note in connection with this theory that all of the production found in the Mexia-Powell fault zone so far has been contained in the Woodbine sand between the limits of 2,400 and 2,610 feet below sea level. Opponents of the theory have not yet had even the consolation of the expected exception to the rule. The Boyd Oil Co. is said to have a core from a well 2,800 feet below sea level which contains a trace of oil but the writer was unable to obtain information about it.

Wells Substantiate Theory

Efforts to disprove this theory have cost considerable more than $1,000,000 probably near a figure double that amount but one after one the wells located in the general region to the north of the Trinity River have come in dry On the other hand, several wells have supplied data to substantiate the theory.

An outstanding example is the Marland Oil Co.'s No. 1 Bauknight, previously mentioned as located on a core-drilled fault structure, in southeastern Hunt County. It reached the Woodbine sand at 2,800 feet or about 2,300 feet below sea level, and found it to contain fresh water. No salt was obtained with a silver nitrate test. Some 20 miles northeast of this in Hopkins County, the Smith-Skelly well No. 1 McGowan, was drilled to 3,730 feet where it was abanboned in June of last year without ever reaching the Woodbine sand. Elevation is about 500 feet. Near the southwestern corner of Hopkins County also, E. L. Smith's No. 1 Pippen, with about the same elevation, did not reach the Woodbine sand at 3,618 feet where it was abandoned.

One of the most interesting geological tests ever drilled in the fault zone is now being put down jointly by the Simms Petroleum Co., the Sun Oil Co., the Boyd Oil Co. and the Atlantic Oil Producing Co. on the Boyd Oil Co.'s Webb lease in the Richland Field. It is being cored every foot of the way and will reveal important data concerning the lower horizons.

Several curious facts concerning the oil production along the fault have not been explained satisfactorily and leading geologists admit that they do not yet know what significance, if any, may be attached to them. For instance, the gravity of the oil is lowest in the Mexia and Powell Field, on each end of the production area, and is higher at Wortham and Currie, while it is highest in the middle. There is gas only with no oil at Groesbeck and in the Connor well, on the extreme ends, and gas only in the Sun Oil Co.'s Swink wells almost exactly in the middle. The highest production, structurally, comes from Mexia and Powell, at about 2,400 feet below sea level, and the lowest at Richland where the top of the structure is about 2,550 feet.

The gravity range referred to is, of course, not great, and may mean nothing, but the symmetry of the gravities looks to the casual observer as though it ought to have some significance. Dr. Lahee says he is working on the problem now but has not yet evolved a theory.

Not on Balcones Fault

Several fallacious ideas about the fault zone exist in the average layman's mind although geologists have known them for a long time. In the first place the Powell, Mexia, Wortham and other fault fields are not located on the Balcones Fault, nor in the Balcones Fault Zone, as commonly stated and believed. Dr. Frederic H. Lahee, chief geologist of the Sun Oil Co., brought this point out in a paper which he read recently before the American Institute of Mining and Metallurgical Engineers in New York. The Balcones fault zone runs practically paralell to the Mexia Fault Zone, along which the pools are located but is about 30 or 40 miles to the west, and is exactly opposite in displacement to the Mexia Fault Zone. The latter is downthrown on the west while the Balcones Fault is downthrown on the east. Between the two is a great down-dropped block containing many minor faults.

Furthermore, it has not been established that the faults in the Mexia Fault Zone along which the pools have been found are connected in one great continuous fault as many persons suppose. There are apparently many faults in this zone, most of which trend in the same general direction, roughly about 20 or 30 degrees east of north and appear to overlap each other. This characteristic is indicated by the outlines of the fault pools on the map. Some geologists attempt to connect the ends of the known faults on the map but such a line is extremely zig-zag in appearance.

As evidence of the varying nature of the different faults which are known in this zone, the displacement of the Powell and Richland faults is about 500 feet in each case, while the Old Richland, or Seay-Cranfill fault and the Currie Fault each has a displacement of about 250 feet, and the Mexia fault varies from 200 to 400 feet.

The Balcones Fault Zone as mapped by F. Julius Fohs, swings around to the west and passes north of San Antonio. The Mexia Fault Zone or line of weakness is thought by some geologists to continue in practically a straight line from Navarro County, down through the Luling Field in Caldwell and Guadalupe counties, the Mirando district of Webb County and probably on down through Jim Hogg and Zapata counties. South of Navarro County, however, the production comes from different geological strata. The Woodbine sand, for instance, has not been found in any well south of Kosse.

Whitehead's Theory Explained

Following are extracts from Mr. Whitehead's paper which explains his theory in detail:

"Generally speaking, waters are found with, or associated with, all oils. There may be a few exceptions to this statement. The writers understand that in certain sands oil has been found in parts of the Appalachian Fields apparently without any waters in the pay and throughout the life of the wells.

"The writers believe that the study of oil sand waters will help to throw light on the problem of oil origin for the resultant combination of hydrocarbons which we are calling crude oil was apparently associated with waters of different types from the first stages of fermentation during which proteins and cellulose were eliminated on to that stage

RECORD OF WELLS DRILLED IN EAST CENTRAL TEXAS

No.	Owner, Farm and Survey—	Elev. Feet	Status	T. D.	Date	Woodbine Depth	Remarks
	Henderson County						
1	Fred Haynes, S. N. Wood, N. Russell	378	Abd.	3100		Not reached	Chalk 2,607-3,024
2	Fred Haynes, Bounds, H. Jeffries	370	S. D.	2000			Show oil in shale at 1,940-41'
3	Penn & Atlantic O. P., Murphy	319	Abd.	3262	Apr., 1925		
4	Cranfill Bros. Oil Co., Springer	317	Abd.	3302	4-11-25		Ch. 2,265-2,794
4-A	Richardson Bros., Cade	430	Abd.	3470			T. C. 3,240
	Kaufman County						
5	Cranfill and others, Duff	330	Abd.	3280	4-10-25	3,260	Ch. 2,420-2,700
6	Ranger Gas Co., Trinity Farm Co.	333	Abd.	3530	In 1922		
7	Hedrick Oil Corp., W. T. Wood	393	Abd.	3300	In 1922	3,057	Rainbow at 3,105?
8	Cathcart & Jackson, Watkins		Abd.	2850	7-7-22		Ch. 2,270-2,540
9	Boyd Oil Co., Rand, J. R. Rierson	388	Abd.	3441	5-23-24		Austin Ch. 2,450-2,958
10	Marland Oil Co., Kelly, Greenlee	403	Abd.	3716	Dec. 1924	3,495-3,525	
11	Marland Oil Co., Arnold (Kenshale) B. S. Newman	376	Abd.	3584	2-23-25	3,375	Ch. 2,447-2,923
12	Frank Skinner & Atlantic, Becker		Drlg.	2607	May 6		Out of chalk
13	Benedum & Trees		Abd.				Old duster
14	Nova Scotia Oil Co., Pyle	332	Abd.	2400	5-10-22		
15	Penn and others, Sprague		Abd.	2800			S. W. at 2,800
16	Humphreys & Texas, W. A. Bishop	460	Abd.	3223	6-12-22	3,225(esti)	
17	Harry Reynolds, Cartwright	457	Abd.	3081	5-6-22		Ch. 2,041-2,542
18	Trapshooter Riley, Porter, G. Isaacs	396	Abd.	2960	Jan. 1923	3,580(est.)	
19	Magnolia Pet. Co., Cernoch	521	Abd.	3706	Aug 1922	2,515	
20	Skinner & Lyles, Barrow, R. A. Terrell	525	Abd.	3719	In 1924	3,263-78	
21	Germany and others, Williams, S. Edens	460	Abd.	3250	1-20-25		One correlation puts Woodbine at 3,082
22	Humphreys-Texas, Barrow	573	Abd.	3510	Aug 1922		Austin Ch. 2,209
23	Humphreys-Texas, Ables, Wm. Fulcher	542	Abd.	3619	7-7-22	3,326-72	Wood. dry S W bottom of hole
24	Panhandle, Grinman, Aaron Bennett	577	Abd.	3504	4-1-22	3,405	Ch. 2412-2,800
25	Tucker and others, Boshears, Thomas Stokeley	471	Abd.	3619	7-7-22	3,225	Ch. 2,316-2,722
	Humphreys, Fox	442	Abd.	3234			
	Carlisle Oil Co., Roscoe	384	Abd.	3054		3,350(est.)	
	Shepherd and others, McKinsey	500	Abd.	2735		2,440	
	Hunt County						
26	Tri City Oil Co., Ridley, McKinney & Williams		Abd.	3078			
27	Pettit and others, Cooper, James Cole	543	Abd.	3130	3-29-24	2,963	Austin Ch. 2,060-2,440
							S W at 3,130
28	Gulf Prod. Co., S. M. Cannon, R. Ragsdale	591	Abd.	3340	12-1-24	2,887	Abd. in shale
29	Gulf Prod. Co., Alexander, Tidwell	532	Abd.,	3205	2-15-25	3,135	
30	J. K. Hughes Dev. Co., J. E. Mooney, John House		Abd.	3130			
31	Kelsey & Aiken, Alisha Branch		Abd.		No data		
32	Tallal & Kelsey, J. W. Burnett, Alexander Smith	565	Drlg.	2002	4-21-25		Drlg. in Austin ch. Trace oil (?) in Wolf City at 1,418-65
33	Invincible Oil Co., D. B. Corley, H. Jacobs	516	Abd.	3520	In 1922	3,588(est.)	
34	Carruth, J. W. (Hogcreek), E. J. Neal, W. Lewis	500	Abd.	3522	In 1922		T. C. 2,320
35	Gulf Production Co., Bryant No. 1, James Cole	440	Abd.	3314		3,225	Sand 3,130-71
36	Gulf Prod. Co., Harris, C. W. Shultz	437	Abd.	3550	In-1922	3,130	
37	Sowell Bros., Weathers No. 1, Jas. Hamilton	440	Abd.	3293		2,970	Austin Ch. 1,858-2,640
38	Marland Oil Co., Bauknight, Jas. Hamilton	489	Drlg.	3745	May 1,1925	2,800	
39	Cash Oil Co., Gibson No. 1, Mabry			2665			
40	Rycade Oil Co., Dr. Lytal No. 1, Jas. McAdams	543	Abd.	3502		2,944	
41	Atlantic-Gulf, Meadows No. 1, Jas. Lewis	390	Abd.	3512	2-28-25	3,170	
	Hopkins County						
42	Gar-Tex Oil Co., McClure, David Waggoner		Abd.	3501	In 1923		S. W. at 3,028
43	Kellogg & Roxana, Dollie Clark No. 1, Matthews		S. D.	1200	3-28-25		
44	S. P. Borden, Smith No. 1, Eliz. Mitchell	420					
45	Texas Co., Enix, Jonas Halle		Abd.	3770			
46	Stough & Potts, Fitzgerald, John Binion		S. D.	1900	4-10-25		
47	E. L. Smith, Pippen, T. R. Hamkins	490	Abd.	3618	6-7-24	Not reached	
48	Marland Oil Co., Cooperage, Nathaniel Hamilton	470	Abd.	4033			Pecan Gap 1,855
49	Smith-Skelly, McGowan, Shelby Tunnage	509	Abd.	3730	6-11-24	Not reached	Pecan Gap, 2,012
	Rains County						
50	Ferguson & Short (W. D. Peoples) Cree & Colter Peeples, F. A. Tibbles		Drlg.	2800	5-6-24		
51	Jim Jefferies, Corley, Lawhorn			1479	In 1922		
52	Marland Oil Co., King, N. G. Crittenden	455	Abd.	3865	6-7-24	3,805	Abd. in red beds.
53	Yost and others, Barnes, Margaret Tollett	460	Abd.	3450	5-15-24	3,350	
54	McGoughlin et al, Dowell No. 1, J. W. McMahan	511		2570	6-30-24		
55	McGoughlin, et al, Dowell No. 2, Downing	486	Abd.	3475	8-18-24		
56	Texas-Pacific, Humphrey, John W. Scott	546	Abd.	3805	1-4-23	3,360	Ch. 2,285-2,705
57	Geo. H. Anderson, A. A. Humphrey, John Garrett		S. D.	1930	4-10-25		
	Van Zandt County						
58	Gurley-Lee, Andrews, W. Roberts	495	Abd.	4114	1-4-23		
59	Walker Consolidated Oil Co., Dawson, D. Chessher	482	Abd.	3520	6-2-22	3,602(est.)	Austin Ch. 3,137
60	Duquesne Oil Co., Baskin, J. Boggs	562	Abd.	3526		3,997(est.)	Austin Ch. 3,532
61	Brookins & Jenkins, Hughes, Eligio Alvarado	491	Abd.	3507	7-1-24	3,412	
62	Marland Oil Co., Simpson, J. Welch		R. O.				
63	Van Zandt Oil & Gas Co., Jones No. 1, J. N. Holt		Abd.	1300	In 1922		
64	Jewel North Texas Oil Co., (SE of Grand Saline)	520	Abd.	4093			
65	Transcontinental, Rice No. 1,	398	Abd.	4180	Old well	3,715	
	Tri City Oil Co. (well near Campbell)		Abd.	3149			H. F. S. W.
	Navarro County						
66	Penn & Atlantic, Absher (Bazette well)	392		3087	Feb. 1925		
67	Boyd Oil Co., Walthall (Bazette well)	376		3274	Feb. 1925		
68	Boyd Oil Co., Connor	343	gas	3190½	In 1922		
69	Boyd Oil Co., S. M. Huggins, R. D. Newman						New 10 C.
	Edson Pet. Co., Rowan et al., Warren No. 1, Doom						New 10 C.
	Penn et al., Vinson Goac, Bailey						New 10 C.

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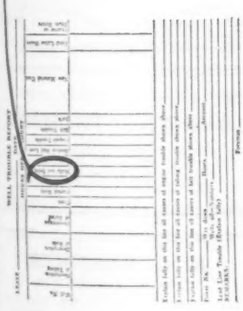

when the hydrocarbons were the end product.

"If salt water and oil have gone through these several successive stages together, the analysis of these waters at different times should serve as an index for the oil.

"In the fields along the Mexia-Powell fault zone we are necessarily dealing with fields in close proximity to faults. These fields are found on the upthrow side of the faults. The wells drilled have shown the Woodbine sand to contain more or less water. The amount of water generally increase with the life of the well. This increase is at different rates, depending upon the depth and position of the well with reference to the structure and to the fault line.

"In the Mexia-Powell producing zone, we have production coming from the Woodbine sand which is exposed at the surface some 45 miles to the west of these fields. This sand member dips at various rates to the east and south and is not found on the surface nor in the wells south of Waco or Kosse. This sand was laid down during the beginning of Upper Cretaceous times in a comparatively rapid encroaching sea from the south and east. A fairly consistent sand body has so far been discovered in the fields proper. Several distant sand series are known at Mexia, where the most prolific producing sand body was pobably not more than 10 feet in thickness. At Powell, some 100 feet of sand has already been discovered in the south end of the field.

Woodbine Sand Series

"For the purpose of this discussion, we will say that the Woodbine sand series of the Woodbine member is a fairly uniform body which extends from the outcrop to the fields and beyond to the east for some distance; that the lithologic characteristics of the sand will allow the migration of waters unless interrupted by faulting or shale beds. The former may be considered as a serious factor to interrupt the migration of these waters.

"At the outcrop, meteoric waters are entering the Woodbine sand and are migrating down dip through the action of gravity and capillary attraction to a certain critical level where they cease to be fresh.

"At Dallas, the Woodbine sand which is encountered at 672 feet to 1,000 feet, contains a modified water. * * *

"The general conditions for accumulation of oil and water in the Powell and Mexia Fields appear to be the presence of a sand body on the upthrow side of a fault at such a depth where the action of the downward migrating meteoric waters and the upward migrating connate waters are arrested in what may be called a neutral zone. Munn has discussed the point in his article entitled, "The Anticlinal and Hydrostatic Theories of Oil and Gas Accumulation," Economic Geology, Vo. H., Pages 509 to 529. If a fault and sand body are found up dip from this neutral zone, the effect of the downward migrating meteoric waters could flush out the oil unless a tremendous uplift of fault would bring about conditions which would permit of accumulation of oil. Again, a fault and sand body down dip from this neutral zone would come under the influence of the hydrostatic head of connate waters from the east and likely wuold flush out the oil unless some exceptional condition of folding or faulting existed. This may account for the general absence of oil in the cores from the Woodbine series immediately east of the field.

"Any fault may allow the upward migration along the fault plane of deep seated waters, which in turn will penetrate out on either side of a fault plane in the zones which afford the least resistance. In fact, the writers first conceived the idea of these sources of deep seated water from data collected from the Jones No. 1 well at Kosse. Cuttings were analyzed daily, and the drilling stopped in the Georgetown series where production was apparently found. Some water was present with the oil originally. A little later, without any apparent reason, the well stopped flowing very suddenly and some weeks later upon agitation started flowing great volumes of salt water with oil. This second flow of water was found to be more saline than the original water found with the oil. A study of this well revealed the following facts: That the original hole was drilled into the Georgetown limestone; that the sudden stopping of the flow of oil was produced during a natural bridging below the bottom of the drill hole in the cavern or fissure through which oil and water was migrating from below with tremendous pressure, dislodging fragments of lime which were carried to the surface and upon analysis were found to be Glenrose in age, which lime series is found several hundred feet below the Georgetown lime in which the hole was terminated. This proved conclusively that the source of oil at Kosse was deep seated.

Analyes of Water

"Analyses of waters at Currie, Richland and Powell indicate that waters close to the fault are less mixed with meteoric water than waters farther away on either side of the fault. East of the fault and east of the zone of miximum admixture, the water again becomes more of an altered brine type. The occurrence of a larger admixture of meteoric water east of the fault than occurs at the fault proper indicates that at some time brine had entered the Woodbine via the fault plane. * * *

"The analyses of waters from the Powell Field show that a brine has come up the fault plane and mixed with the waters occurring in the Woodbine sand. * * * It is very probable that some oil came up the fault plane along with the brine, and the trapping of the oil in the Woodbine sand may have been helped by the action of the precipitated carbonates. The accumulation of oil due to the cementing action of the precipitated calcium and magnesium carbonates when the types of waters mentioned above have mingled, has probably served as a barrier in the Woodbine sand, particularly at Powell. * * *

"At Luling, the water coming up the fault plane may have its source in the Trinity series or lower horizons It is generally known that the waters west of the Luling Field proper, in the Edwards-Georgetown limestone, are less potable than the waters from the underlying Trinity series. Analyses of waters at Luling prove that the waters which have migrated up the fault plane are very different from the water on either side of the faults.

"A fault of sufficient throw occurring along the Mexia-Powell-Luling fault zone, which would displace porous members, either sand or lime, would arrest further migration of original waters.

"Providing the pressure of the water coming up the fault plane counterbalances the pressure of the original water found in the Woodbine sand and the Georgetown limestone adjacent to the fault, any oil carried with the water up the fault plane could accumulate in this neutral pressure zone. Analyses of waters show the limits to which the fault plane water penetrated."

Trinity Series Promising

Some may ask why the lower sands do not contain oil if the crude came up the fault plane. This is explained by Mr. Whitehead on the ground that the neutral zone does not occur at the same place in the lower horizons as it does in the Woodbine sand. The possibilities of the Trinity series are being investigated now, and there are good chances that production will be found in it.

Another question frequently asked relates to the fact that all of the oil has been found on the upthrow side of the faults. The oil would naturally seek the higher level under Mr. Whitehead's theory, and in addition, the sealing effect of the precipitation of carbonates, previously discussed, would be greater on the downthrow side of the fault

There is another school of thought which favors the theory that the oil migrated up the dip instead of coming up the fault plane. However, cores of the sand east of the fault fields do not give any indication that they ever contained any oil The absence of stain, the arrangement of the grains, etc., all

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point to the fact that no oil was ever present there.

This theory, however, which assumes that the oil migrated up the dip in a west direction, takes into account the great synclinal basin, or general low area to the east and northeast, and concludes that the front line of faulting of which the Mexia-Powell faults are a part, swings over to the northeast into the low area, and has directed most of the oil toward the general structural high region where the known pools are now located That doesn't leave much hope for the district north of the Trinity River.

Three new locations which are just starting up between the Powell Field and the river will be watched with considerable interest, especially by geologists, although the memory of Bazette may dim any enthusiasm over them on the part of the fraternity at large. The Boyd Oil Co. is planning to try again just northeast of its old Connor gas well several miles north of Kerens and nearer the river. The Connor well made 5,000,000 feet of gas from sand at 3,190½ feet in 1922.

Between Bazette and the Powell Field, the Edson Petroleum Co., Rowan and others have a location on the Warren tract on 59 acres in the Doom survey. In connection with the "neutral zone" theory, that well will be better located, it is generally believed, than any others drilled in the Bazette district.

The most interesting well now drilling is the Skinner and Atlantic test on the Becker farm. It passed out of the Austin chalk at 2,607 feet on May 6 and unless held up in some way may reach the Woodbine before this is printed. It is of special significance because it is supposed to be on a fault, but was located more with reference to the critical level or neutral zone than to the fault. It is No. 12 on the accompanying map, in southeastern Kaufman County.

Although the whole district as far south as Kosse is included in the map to show the relative position of all pools, no dry holes south of the fields are shown, although many have been drilled there. It is another geological province.

CONTAMINATION OF CRANKCASE OILS

(Continued from Page 151)

location of the air intake in a space which is protected from dust.

The harmful effects of dust are greatly aggravated by thin oils since the film thicknesses are here very small. The maintenance of a suitable viscosity in the oil will probably very greatly reduce the wear on the bearing surfaces. Periodic draining of the crankcase is essential in order to remove the diluted oil and the accumulation of dust. Probably the recommended practice of cleaning the crankcase every 500 miles is, under the present conditions of operation, desirable if not essential, to economical upkeep.

A third external contaminant is water. This is formed in the combustion of gasoline in the ratio of about 1.4 pounds for each pound of fuel burned. The greater part of the water of combustion passes out with the exhaust and as water is not readily miscible with oil it probably gains access to the crankcase largely through blow-by past the piston. Water, in the amounts commonly found in the crankcase, has little effect upon the lubricating properties of the oil but may combine with sulphur compounds formed in the combustion of fuels containing this element to form corrosive acids. In very cold weather water may accumulate and freeze in such places as to clog the lubricating systems. With well-fitted pistons and rings and an oil sufficiently viscous to give a good piston seal little trouble should be experienced due to water except in cold weather.

Dilution, dust and water are seen to be the external contaminants which may cause failure of the lubrication and dilution is probably the most common cause of trouble.

Changes in the Oil

An initially suitable oil may undergo changes in the engine due to its inherent instability under the necessary conditions of service. The changes which may take place are (1) "cracking" or decomposition of the oil into lighter compounds and a carbonaceous residue and (2) oxidation or combination with oxygen to form organic acids and other products of an asphaltic nature, which will be called asphaltenes.

Some oils will crack before they vaporize but this cracking does not ordinarily take place at temperature below 370 degrees Centigrade (706 degrees Fahrenheit). Probably in the automobile engine cracking takes place only in the combustion chamber and possibly, occasionally on the under side of the piston head. It does not seem that any appreciable part of the dilution is due to cracking. However, the residue does go to make up the "carbon" found in the combustion chamber. The fuel also contributes to this carbon and, as has been shown,* may be the principal offender if the mixture is very rich. This oil and fuel carbon, together with the road dust, which may fortunately be caught here instead of going on to contaminate the oil and cause abrasion, constitutes the "carbon" which necessitates occasional cleaning of the combustion chamber.

The oxidation of the oil probably takes place largely in the crankcase and is accelerated if this oil is highly heated. Some oxidation does undoubtedly take place in the combustion space but the oil which is oxidized here probably also burns.

The organic acids formed by oxidation are probably altogether too weak to cause corrosion and their effect may be neglected. The asphaltenes cause a discoloration of oil to a deep red and produce an increase in its voscosity. This last effect is, however, usually masked by the very much greater decrease in viscosity produced by dilution.

Asphaltenes Form

Asphaltenes in solution are probably not harmful. However, if formed in excess they are precipitated out, especially when the oil is diluted, and form a binder to aggregate the dust and metallic particles, together with the fine particles of carbon which have worked down from the combustion chamber into aggregates which usually also contain water if that be present. These aggregates tend to clog the small lubricating passages and may cause complete failure of the lubrication to one or more bearings.

The tendency of an oil to form asphaltenes may be measured by the oxidation test* and it is evident that resistance to oxidation will become increasingly important for motor oils as progress is made in protection of the oil against dilution and dust.

The examination of used oils reveals the presence of contaminants as follows: Diluent 20 to 50 per cent; asphaltenes trace to 0.2 per cent; carbon 0.1 to 0.5 per cent; ash 0.05 to 0.3 per cent. The ash consists of metallic compounds, oxides, etc., and silica compounds. The latter may make up from 10 to 20 per cent of the weight of the ash.

In the large majority of cases examined dilution is sufficiently great to account for unsatisfactory operation while high dilution, together with road dust account for excessive wear. Usually the asphaltene content is relatively low though in some cases it appears to be the main cause of trouble.

It appears then that external contamination, dilution and dust, occur in crankcase oils as used under present condition to such an extent as very seriously to impair the effective life of the oil. It follows that these factors must be eliminated or their effects evaluated and considered in any comparison of the service value of oils, especially since external contamination is controlled by operating conditions and its effects upon the engine are practically independent of any inherent property of the oil other than viscosity and this is a measure of the suitability rather than of the quality of the oil.

*Bull. A.P.I., Vol. IV, No. 73, p. 132, December, 1923.

*Proc. A.S.T.M., Vol. 24, part 11, p. 964, 1924.

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California Standard Reports Operations During the Past Year

In the Standard Oil Co. of California annual report, President K. R. Kingsbury says 1924 was a year of declining crude oil production, California State having produced 230,063,117 bbls. compared with 263,728,895 bbls. in 1923. Including production shut in, State's yield end of 1924 was an average daily decline of 181,231 bbls. Shipments of California oils through the Panama Canal average 146,776 bbls. daily against 173,811 the previous year; of 1924 shipments 7,765,000 bbls. were finished and unfinished gasoline.

The company produced 28,677,249 bbls. of crude, daily average of 78,353 bbls., compared with 77,212 bbls. average in 1923. Its shut-in production end of 1923 was estimated at 47,628 bbls. daily, while end of 1924 it was down to 1,100 bbls. daily. At the close of 1924 it was producing 92,000 bbls. daily contrasted with 55,000 bbls. a year previous.

Purchases of crude oil were made from 262 producers and amounted to 42,151,877 bbls., daily average of 115,169, while pipe lines ran an average of 203,083 bbls. daily, decrease of 37,595 from 1923.

End of 1924 company had 1,381, oil and 8 gas wells producing. It drilled 125 producing and abandoned 23 wells as dry last year. End of 1924 it was operating 73 strings of tools, 46 of which were working on new wells.

Refinery Operations

Refineries averaged runs to stills of 144,075 bbls. daily. Considerable expenditures were made for additions to new process and fire protection equipment. A grease plant was installed at El Segundo refinery and a chemical plant for treatment of oils is being built at Richmond refinery.

Sales department had 671 storage distributing stations and 703 automobile service stations the close of 1924.

A new 10,000-bbl. Diesel electric drive tanker was built last year, designed especially for the Hawaiian Island trade. A bulk trade was opened with Australia and two cargoes of gasoline delivered to Sydney by the company's own motor ship, probably the first bulk deliveries to that port. End of 1924 it owned 21 tankships having aggregate capacity for 1,414,269 bbls. and auxiliary craft with capacity for 35,151 bbls. The fleet transported last year 36,384,944 bbls.

Taxes collected on gasoline by Standard Oil of California in six States it operates in, aggregated $7,179,066, California's tax of 2 cents a gallon showing the largest income amounting to $4,240,920. In addition, Standard Oil of California itself paid taxes of various sorts aggregating $7,241,329.

Regarding drilling operations, Mr. Kingsbury tells of finding a new low sand in Coyote Hills Field of California on the Murphy-Coyote and Emery properties, which have been producing for some years, the limits of which are not yet defined. One well had intial production of 1,064 bbls. and the other 1,754 bbls. a day. A new low sand was also found in the old Montebello Field and the first well had intial production of 800 bbls. "The discovery of these lower oil measures adds much to the value of these properties," he says.

The company, at the close of 1924, had 1,049,755 acres of producing and potential oil land, of which 674,751 are outside the United States. Acreage owned and controlled within this country increased 148,781 acres during 1924.

Mr. Kingsbury relates development work in States outside of California and in other countries. A well in Alaska had reached 3,017 feet by the end of 1924. In Montana production for 1924 was 57,687 bbls. with 13 oil and 1 gas well producing and 1 well being drilled end of 1924. Holdings in that State total 38,615 acres.

Operations in Texas yielded production of 276,569 bbls. with 125,470 acres under lease end of 1924. In Colorado leases were held on 22,163 acres with two

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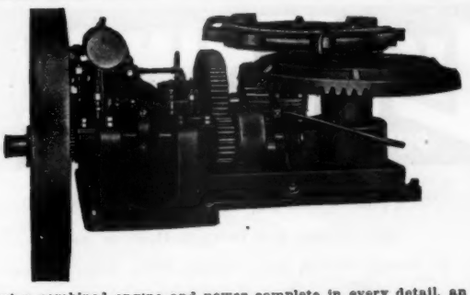

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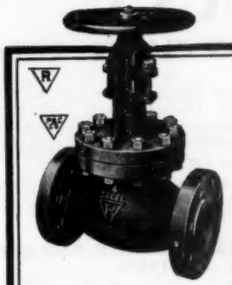

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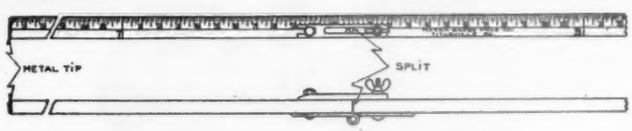

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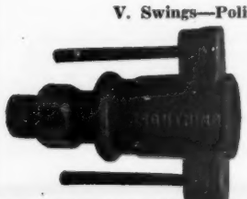

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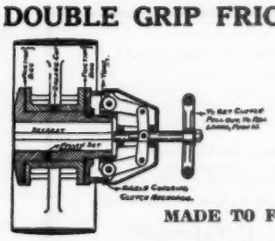

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wells drilling close of the year. In New Mexico it holds 68,442 acres with one well drilling. In Wyoming it acquired under lease and permit 3,271 acres with one well drilling.

South American Operations

Colombian operations showed four wells drilling, two each on the Carman and San Jacinto concessions. Carman No. 1 was down 4,015 feet and No. 2 was drilled 2,585 feet by the end of 1924. San Jacinto No. 1 was drilling at 4,090 feet and No. 2 at 160 feet at the end of the year. These properties are being operated by the Latin American Petroleum Corp., while a new company, entirely owned by Standard of California, known as the Richmond Petroleum Co., was formed to handle other properties in Colombia and holds 153,924 acres. The two Colombian companies together hold 369,629 acres.

Two wells being drilled in Argentina were abandoned, one at 3,575 and the other at 3,859 feet. A new company was formed to drill a test on 9,800 acres acquired during 1924. A well being drilled in Ecuador was abandoned at 6,018 feet and end of 1924 there were held 67,000 acres.

Activities in Mexico, where holdings are 61,500 acres, was confined to geological work.

Richmond Petroleum Co. of Venezuela was formed in 1924 with 100,000 acres acquired on which are seepages and structures. Approximately 49,400 acres were acquired in Panama but no drilling has been started. Operations in the Philippine Islands were abandoned in July, 1924.

The year's payroll amounted to $42,219,721 with 19,558 employes. The stock investment plan for employes, now three years old, held 397,925 shares for 12,465 employes representing credits of $20,779,065. During 1924 there were issued for account of employes stock investment plan 100,965 shares at about the market price bringing share capital issued to 9,409,138 shares.

Investment securities decreased by $3,739,848 by reason of conversion of Government securities into cash. On August 1, last $2,500,000 of the first series of 5 per cent serial notes were retired leaving $22,500,000 still outstanding.

Expenditures for plant investment during 1924 were $13,303,768.

At the end of 1924 stockholders numbered 19,387, a gain of 1,362. Of this total 40.9 per cent were women while 91 per cent of stockholders held 500 shares or less; 72.5 per cent held 100 shares or less and 44.4 per cent held 25 shares or less. Stockholders living in the United States were 99.05 per cent of the number and owned 99.3 per cent of the total shares. The Pacific Coast stockholders were 37 per cent of the total. numbering 7,172, against 6,519 end of 1923.

HOMER SUIT REVIVED

SHREVEPORT, La., May 9.—The $9,000,000 suit brought more than three years ago by the Consolidated Progressive Oil Co. against the Standard Oil Co. of Louisiana and the Atlas Oil Co., has been reinstated by the decision of the Louisiana Supreme Court, which reversed the Claiborne District Court's decision and ordered the case returned for trial. The plaintiff company filed suit as discoverer of the Homer (La) oil field, alleging that the defendant's lease was illegal.

TAKE OVER CRUSADER CO.

SHREVEPORT, La., May 9.—Further results of the Pan American-Standard Oil Co. of Indiana deal as it effects oil interests operating in Shreveport, La., territory appeared in the formal taking over by the Standard of Indiana of the Crusader Oil Co. and the Crusade Pipeline Co., formerly subsidiaries of the British-Mex. Petroleum Co., which was, in turn, a subsidiary of the Pan American. The Crusader Oil Producing Co. a third member of the Crusader group of which W. R. Davis is at the head, remains intact.

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New Needs for Oil Ever Growing, Says President R. L. Peeler

LOS ANGELES, Cal., May 9.—R. L. Peeler, president of California Petroleum Corp., sees nothing in the present period of overproduction of crude oil to cause concern.

"When the world is motorized on land, sea and air, the oil industry may be depended to keep pace with the times and to meet the new demands made upon it." said Mr. Peeler, discussing "The Gasoline Age" before Group Five of the California Bankers' Association.

"In 1906 assets of the oil industry in the United States aggregated $750,000,000 and it was producing 33,000,000 bbls. of kerosene and about 7,500,000 bbls. of gasoline," he said. "The American public has invested $10,000,000,000 to $12,000,000,000 in motor driven transportation, which has resulted in the oil industry's assets aggregating at present $8,000,000, with a production of 60,000,000 bbls. of kerosene and 214,000,000 bbls. of gasoline. The gasoline used in the United States in 1923 expressed in dollars, was $1,326,200,000; in 1924, $1,687,740.000 and the estimate for 1925 is $2,109,675,000.

"In 1924 there were 17,596,981 automobiles and trucks in the country, against 700,000 in 1911, the earliest United States figures on registration, served by 60,000 service station of which 6,672 are located upon the Pacific Coast.

"The first authentic registration figures for California were for 1914 when 100,000 motor vehicles were registered. In 1924 they had increased to 1,319,000.

"The Los Angeles basin last year produced from 2,879 wells 141,000,000 bbls. of the State's 230,000,000 bbls. of crude. Signal Hill Pool last year produced 60,000 bbls. of oil an acre, an unheard of production in 20 years for an entire pool, to say nothing for one year. Cushing, the Mid-Continent's best pool, has in 10 years produced less than 20,000 bbls. an acre for the pool.

"The enormous growth of the motor industry and the abnormal demand for gasoline has resulted in price fluctuations. The cracking process met this demand in part and was the salvation of the refineries by increasing the yeld from each barrel of crude from 18.6 per cent in 1914 to 31 per cent in 1923.

"Increased demand for fuel oil for fueling ships in the last six years has been another contributing factor in the increased price of gasoline. Gasoline extraction uses 26 per cent of the production and returns 53 per cent of the money while fuel oil uses 57 per cent of the production and returns 26 per cent of the money. The price of fuel oil is based on the price of coal.

"The demand made upon oil and the increasing consumption of it may cause the practice of using it under boilers to cease, as it will be too valuable for such purposes. However, Diesel has provided a substitute power engine which conserves the supply and broadens the use of fuel oil. An example of this conservation is shown in the 23,000-ton ship, recently put into service on the Pacific, which has a capacity of 1,000 passengers and 300 crew. A ship's earning power is based on its cargo tonnage. With Diesel engine the 23,000-ton ship has a clean passenger and freight room of 20,000 tons; with steam boilers and fuel oil, 14,000 tons, and with coal, 8,000 tons."

BARCO CONCESSION ROYALTY

American banking and business interests are reported to have acquired 50 per cent of the royalty interest of the Barco concession, heretofore owned by the General Barco estate, in Colombia. The concession covers oil, coal and other hydrocarbon rights on about 1,300,000 acres. The lease on the concession is held by Colombian Petroleum Co., in which Doherty interests have 75 per cent interest and Carib Syndicate 25 per cent interest.

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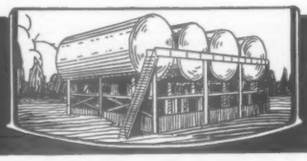

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SHALE FIELD RESURVEY PLANNED IN COLORADO

WASHINGTON, D. C., May 9.—A resurvey of the great oil shale district in Garfield County, Colorado, to be resumed by Government surveyors within a few weeks is expected to result in unearthing a number of illegal and fraudulent mineral locations, it was announced at the Interior Department.

Because of the rich deposits of oil shale with a potential output running into 100,000,000 bbls., the area is completely plastered with numerous mining claims and plans are being made by the General Land Office to enter on the plats only those claims the validity of which is unquestioned.

In the resurvey of the district under a special act of Congress, all claimants will be required to present satisfactory evidence that they have complied with the law not only in making their locations but also in spending the necessary annual assesment for development. Along with the actual surveying of the land an investigation is being conducted into the various placer mining claims to ascertain whether they are meritorious and whether frauds have been committed against the Government.

Another feature of the survey, which had added greatly to its difficulty, is that many of the placer claims overlap each other. This is due to the fact that marks of the original survey made by contract surveyors have been completely or partially obliterated. Inaccuracies in the original surveys have been discovered in which the corner positions are defective. A discrepancy of 3 miles occurred in some places in the lines. Most of these discrepancies exist in the vicinity of the First Standard Parallel where there are also a large number of mining locations.

In view of the magnitude of the interests involved, every effort is being made by the Interior Department to expedite the resurvey as well as protect the interests of the Government. Already six of the eight townships in this district of Colorado have been surveyed. The work upon the two remaining townships will be prosecuted as rapidly as possible during the coming summer. So far the sum of $41,000 has been expended on the resurvey. It is estimated the cost will exceed $50,000 before the entire eight townships are completed, all of which is attributable to the serious errors or fraud perpetrated when the lands were first surveyed under the old contract system.

The General Land Office announced that although the placer mining claims extended almost in unbroken groups throughout the De Beque shale district, the rights of the holders of legitimate mining claims would be protected while no step would be left untaken to throw out illegal and fraudulent claims. It was stated also that this preliminary examination into the validity of the placer locations would not constitute a final adjudication. The General Land Office announces that the time required for the preparation of the returns of these resurveys as they are completed in the field, looking to the restoration of the lands to entry and disposal, will be materially shortened through the recent act of Congress placing the offices of Surveyors General, where the plats and field notes are prepared, directly under the Supervisor of Surveys. This change makes it possible to coordinate the field and office work which has heretofore been administered by two separate and independent organizations.

MEXICO ADMITS FOREIGN SHIPS

Foreign-owned ships have received permission to transport oil in coastwise trade after a long dispute between the owners of the ships and the Mexican Government. The owners refused to change the ships to the Mexican flag in order to enter the coastwise fuel oil trade. The Mexican Government finally granted permission to enter the trade on payment of new taxes, which are expected to produce large sums.

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Detailed Operations in Western Fields for Month of April

SUMMARY OF ALL FIELDS

Fields—	Comp.	Prod.	Dry	Gas
Eastern	374	1,604	41	79
Lima	59	808	11	2
Indiana	6	89	1	1
Central Ohio	30	171	7	14
Kentucky	178	2,511	46	11
Tennessee	2	125	0	0
Mississippi	7	0	7	0
Illinois	16	172	9	0
Kansas	259	18,860	84	18
Oklahoma	447	89,855	113	42
North Texas	381	31,272	137	9
East Central Texas	57	4,529	22	5
N. Louisiana-Ark.	214	264,507	38	17
Gulf Coast	121	44,513	39	0
Southwest Texas	31	11,025	3	6
Wyoming	42	6,465	3	0
Montana	18	1,045	2	0
Colorado	5	0	5	0
New Mexico	9	2,130	0	0
Total April	2,256	479,681	568	204
Total March	1,688	217,212	465	186
Difference	658	262,469	103	18

Rigs and Wells Drilling

Fields—	Rigs	Drg.	Ttl.
Eastern	157	465	622
Lima	8	83	91
Indiana	1	18	19
Central Ohio	35	52	87
Kentucky	19	206	225
Tennessee	6	23	29
Mississippi	5	20	25
Alabama	1	9	10
Georgia	1	4	5
Illinois	4	34	38
Kansas	106	428	534
Oklahoma	266	1,165	1,431
North Texas	56	403	459
East Central Texas	15	61	76
North Louisiana-Ark.	144	455	599
Gulf Coast	75	156	231
Southwest Texas	48	62	110
Wyoming	71	255	326
Montana	32	126	158
Colorado	14	85	99
Utah	1	27	28
New Mexico	5	51	56
Total April	1,070	4,188	5,258
Total March	990	3,982	4,972
Difference	80	206	286

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. The rigs and wells drilling are set forth in similar manner. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Tulsa	34	1,638	10	6
Osage	79	12,143	10	6
Okmulgee	47	2,214	17	6
Seminole	42	33,821	4	0
Okfuskee	19	4,855	1	4
Hughes & McIntosh	22	6,029	6	0
Muskogee and Wagoner	139	10	4	
Creek	51	4,222	17	4
Pawnee	13	1,442	4	0
Payne and Lincoln	3	525	0	0
Kay	23	15,618	4	2
Garfield and Noble	10	4,654	2	0
Carter	22	1,670	3	2
Stephens and Cotton	21	426	7	3
Miscellaneous	40	459	18	5
Total April	447	89,855	113	42
Total March	423	73,587	131	50
Difference	24	16,268	18	8

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Osage	28	119	147
Tulsa	14	13	45
Okmulgee	30	62	92
Seminole	27	134	161
Okfuskee	21	84	105
Hughes and McIntosh	18	83	101
Muskogee and Wagoner	4	25	29
Creek	34	118	152
Pawnee	5	80	85
Kay	14	75	89
Payne and Lincoln	9	68	77
Noble	3	30	33
Garfield	25	29	54
Stephens and Cotton	5	49	54
Pontotoc	0	18	18
Carter	10	57	67
Miscellaneous	19	103	122
Total April	266	1,165	1,431
Total March	258	1,151	1,409
Difference	8	14	22

TULSA COUNTY

1-19-12 Grayson, Echo Oil 2 35
Berryhill, Sand Springs Home Oil, 5 30
Berryhill, Sand Springs Home Oil, 6 30
18-19-12 Jargee, Munn et al, 1 35
11-19-12 Clinton, Posey Short, 1-A 125
24-19-14 Freeman, Deens & Stevens, 1-A gas
9-18-13 Franklin, Upp & Vick Oil, 4-A 9
32-18-14 Harkey, Centre Oil, 3 ..... gas
16-19-11 Inchoe, M. H. Watts & Riverland Oil, 1 15
4-18-12 Partridge, I. D. Simmons, 4 10
1-19-12 Berryhill, Sand Springs Home Oil, 7 900
Unallotted, Brooks Drlg. Co. 2 65
6-18-12 Bigpond, Regal Oil 24 30
35-18-13 Barthoff, Black & Thompson 2 gas
31-17-13 Murray, Sheldon Oil, 1 30
16-19-11 Hodge, Sand Springs Home Oil 2 ..... dry
16-19-10 Robinson, Glidden Oil, 1-A ..... dry
4-18-12 Berryhill, Echo Oil, 1 ..... gas
20-19-12 Jargee, Highway Drlg. Co., 9 15
30-19-12 Bedrey, Nowata O. & R., 2 15
27-17-12 Hutchins, Bradstreet Oil, 1 ..... gas
2 ..... dry

1-16-12 Barnett, C. E. Suppees, 1 ..... dry
15-16-12 Jones, Sheridan Oil, 1 ..... dry
26-17-14 Yargee, Appleman et al 1-A ..... gas
1-16-12 Lowe, E. H. Bradley et al, 2 ..... dry
1-20-13 Doutt, J. E. Moore et al, 1 ..... dry
Komma, J. E. Moore et al, 1 ..... dry
29-30-13 Humphrey, Elo Oil 1 ..... gas
7-20-13 Wilkinson, Echo Oil 3 ..... dry
20-22-14 McCarty-Middleton, 1 ..... dry
36-21-12 Sanders, Hughes & Co., 2 104
12-20-12 Wintin heirs, Campbell Oil 10 ..... dry
30-22-14 Justus, Sanders O. & G. 2 12
Ward, J. H. Middleton 1 35
55

Wells completed 34
Production 1638
Dry 10
Gas 6
Gas production 24,500,000

OSAGE COUNTY

32-20-11 Sand Springs Home Oil, 2 10
8-20-12 Gillespie et al, 24 15
9-20-12 Winona Oil, 15 30
15-21-12 Howard et al, 7 10
16-21-12 Sterling O. & G., 3 30
31-21-12 Barnsdall Oil 25 100
Gillespie et al, 14 8
32-22-10 Sinclair Oil, 20 50
34-22-12 Skelly Oil et al., 16 15
4-23-9e Peters et al., 3 5
2-24-11 Barnsdall Oil, 1 10
17-25-9e Forter-Davis, 1 200
20-26-6e Carter Oil, 1 580
12-27-6e Phillips Pet., 14 600
10-27-10 Owen Osage Gas 286 3
8-27-11 Owen Osage Gas, 316 ..... gas
27-29-11 Beacon Oil, 8 30
5-20-12 Barnsdall Oil, 11 90
29-20-12 Oklahoma Natl. Gas, 678 ..... gas
14-21-10 Breene et al, 7 150
21-21-10 Commercial Drlg., 1 30
31-21-12 Tidal Osage Oil, 6 10
14-22-8e Riverland Oil, 3 1670
13-23-8e Twin State Oil, 8 160
24-24-9e Tidal Osage Oil, 13 50
21-26-6e Carter Oil, 2 396
Carter Oil, 3 392
12-27-5e Phillips Pet., 1 75
Phillips Pet., 8 600
Phillips Pet., 9 500
Phillips Pet., 10 625
Phillips Pet., 14 575
14-21-10 Breene et al, 6 ..... dry
29-23-8e Red Bank Oil, 6 ..... dry
6-28-12 Oswego Pet., 1 ..... dry
22-20-11 Sand Springs Home Oil, 1 ..... dry
31-28-11 Owen Osage Gas, 318 ..... dry
28-20-11 Gray Oil, 7 50
29-20-12 Okla. Natl. Gas., 679 ..... gas
1-21-8e I. T. L. Oil, 2 160
22-21-10 Breene-Markham, 4 35
16-21-12 Fidelity Oil, 8 25
16-21-12 Selby O. & G., 8 10
30-21-12 Elliott & Smith, 3 15
16-22-9e Amerada Pet., 2 150
13-23-10 American O. & G., 18 25
28-24-10 Wynona Oil, 11 10
4-25-12 Forty-Five Oil, 38 60
2-27-5e Skelly Oil, 1 10
Skelly Oil, 2 300
11-27-5e Phillips Pet., 7 300
12-27-6e Phillips Pet., 7 275
Phillips Pet., 11 840
Phillips Pet., 16 10
28-28-11 Duffield & Howard et al, 2 30
27-29-11 Wiser Oil, 6 50
34-29-11 Phillips Pet., 2 ..... dry
14-21-10 Breene et al., 5 ..... dry
10-22-10 Riverland Oil, 1 ..... dry
31-25-7e Vickers & Higgins, 1 ..... dry
3-21-9e Skelly & Ohio-Osage Oil, 1 35
32-22-10 Twin State Oil, 11 15
12-23-8e Peters, 4 54
21-23-8e Beacon Oil, 3 25
8-24- 8 Riverland Oil, 1 ..... dry
32-24-12 Owen Osage Gas, 320 ..... gas
19-25- 9 Olean Pet., 4 125
20-26-6e Carter Oil, 3 91
11-27- 5 Phillips Pet., 3 350
Phillips Pet., 8 150
Phillips Pet., 10 250
Phillips Pet., 11 150
12-27-5e Phillips Pet., 5 700
13-27-5e Carter Oil, 10 345
18-27-6e Phillips Pet., 11 262
The Texas Co., 13 200
8-27-11 Owen Osage Gas, 322 ..... gas
10-27-11 Owen Osage Gas, 321 ..... gas
27-28-11 Ramsey Oil, 1 ..... dry

Wells completed 79
Production 12143
Dry 6
Gas 10
Gas production 10,250,000

OKMULGEE COUNTY

34-16-12 Leyfor, Sheldon & Superior, 2 100
4-15-11 Gibson, Clover & Neely, 1 80
29-15-11 Thompson, Kellough et al., 2 45
32-15-11 Berry, Eastern Oil, 2 75
Berry, Eastern Oil, 9 30
11-15-12 Dover, Olean Pet., 2 40
4-11-12 Hawkins, Coskey et al., 1 ..... gas
21-15-14 Osborn, Swindler, 1 634
19-15-12 Strip, C. F. Noble, 2 ..... gas
5-12-12 Bird, Calvin & Smith, 1 ..... gas
7-12-12 Turner, Morton & Co., 2 150
30-13-15 Sampson, C. E. Campbell, 6 ..... gas
31-16-14 Jacobs, Anglo-Texas Oil, 1 ..... dry
29-15-11 Getzendamer, Anglo-Texas, 5 ..... dry
14-13-11 Wood, Wood Oil, 1 ..... dry
17-15-13 Louiney, A. E. Kirkland, 2 ..... dry
34-16-12 Buffington, Berry Pet., 3 ..... dry
22-13-11 Morgan, Georgia Pet., 2 ..... dry
33-13-12 Wilson, Eagle Picher Oil, 4 ..... dry
Morton, Independent O. & G., 1 ..... dry
28-15-14 Adams, F. D. Misener, 3 ..... dry
24-16-12 Tiger, Okla. Natl. Gas, 11 ..... dry
27-16-12 Haskins, Independent O. & G. 9 45
Haskins, Sheldon & Houston, 1 320
35-16-12 Staley, Sheridan Oil 25
31-12-12 Rentie, Eureka Oil, 10 80
11-11-13 Bruner, Wooster, 2 250
15-14-14 Colbert, J. G. Hass, 10 ..... gas
2-15-11 Haskins, Waite Phillips, 5 50
32-15-11 Berry, Eastern Oil, 10 ..... dry
20-12-14 Hawkins, W. B. Pipe, 2 ..... dry
25-13-11 Tobler, The Prairie Oil & Gas 12 ..... dry
4-15-11 Fife, Sheridan Oil, 1 50
10-15-11 Adams, Beggs O. & G., 14 70
32-13-12 Morton, Holly Oil, 1 25
12-13-13 Alexander, Cosden Oil, 17 ..... gas
17-13-13 Grayson, C. M. Roberts, 4 20
15-13-14 Scott, McGranahan, 4 15
50

23-13-14 Scott, Lucky Scott, 8 50
24-13-14 Thornsberry, Iron Mtn. Oil, 8 5
16-13-15 Lovett, Laurel O. & G. 1 25
6-14-15 Connor, E. Price, 7 25
27-16-12 Coleman, Margay Oil, 2 80
26-15-12 Havercamp, Briscoe et al 1 ..... dry
20-13-12 Shepherd, Detrick, Logan et al 1 ..... dry
29-12-12 Randall, W. C. Newman, 2 ..... dry
26-13-13 Cumseh, Okla-Kan. Oil, 3 ..... dry

Wells completed 47
Production 2214
Dry 17
Gas 6
Gas production 25,500,000

SEMINOLE COUNTY

33-11-8e Williams, Cosden & Waite Phillips, 1 60
Pierce, Mutual Oil 2 80
Pierce, Mutual Oil, 3 50
34-11-8e Hill, Sinclair & Gardner, 6 1360
Foster, McMann & Magnolia 1 645
4-10-8e Yarbrough, Sinclair Oil, 7 350
5-10-8e Fixico, Sinclair Oil, 2 360
17-10-8e Bruner, Cosden Oil, 2 ..... dry
13-9n-7e Williams, Indept. O. & G., 1 ..... dry
33-11-8e Jackson, Pure Oil, 2 10
Jackson, Pure Oil, 4 1503
3-10-8e Little, Southwestern Pet., 1 1038
Yarhola, Roxana Pet., 6 500
4-10-8e Fixico, Gypsy & Laurel, 2 190
5-10-8e Sampson, Gypsy Oil, 2 25
8-10-8e Willis, Gypsy Oil, 4 1928
31-8n-8e Salinda, W. R. Ramsey, 1-B 40
32-8n-8e Parker, Dixie Oil, 1 175
32-11-7e Thomas, H. F. Wilcox O. & G. 1 dry
Walker, Dixie Oil, 3 175
32-11-7e Thomas, H. F. Dilcox O. & G. 1 dry
8-10-8e Buckner, The Prairie O. & G. 12 47
33-11-8e Williams, Cosden & Waite Phillips, 2 450
Pierce, Sinclair Oil, 5 1080
Pierce, Sinclair Oil, 6 993
Williams, Carter & Pulaski Oil 1 782
Jackson, Gypsy Oil, 1 1420
Jackson, Gypsy Oil 2 4000
Jackson, Gypsy Oil, 3 2140
34-11-8e Hill, Sinclair & Gardner Oil 2 700
Hill, Sinclair & Gardner Oil 3 1400
Hill, Sinclair & Gardner Oil 5 776
Hill, Sinclair & Gardner Oil 7 501
Foster, McMann & Magnolia Pet 2 750
3-10-8e Dunn, Carter Oil, 5 643
Dunn, Carter Oil, 6 702
Dunn, Carter Oil, 7 1200
Dunn, Carter Oil, 8 754
Dunn, Carter Oil, 9 1274
Gwens, The Prairie O. & G., 1 545
4-10-8e Wisner, Southwestern Pet., 6 450
31-8n-8e Salinda, W. R. Ramsey, 1-B 3890
33-11-8e Jackson, Pure Oil, 1 ..... dry

Wells completed 42
Production 33,821
Dry 4

OKFUSKEE COUNTY

22-11-11 Guy, Windsor Oil,1 235
21-10-9e Simon, Cosden Oil 1 ..... gas
33-10-9e Barnett, Midwest & Gulf, 1 180
Johnson, Carter Oil, 6 631
35-10-9e Sand, T. B. Slick, 2-A 1283
Sand, T. B. Slick, 6 225
Sand, T. B. Slick, 8 500
3-11-11 Field, Barbara Oil, 1 75
11-11-11 Hopwood, Cusick et al, 6 20
35-10-9e Dunson, T. B. Slick, 1 ..... dry
14-10-8e King, White Eagle O. & R., 1 200
35-10-12 McQueen, Carter Oil, 1 ..... gas
34-10-9e Davis "A," The Prairie Oil & Gas Co., 2 742
32-12-11 Fields, Josey Oil, 1 100
25-11-9e Foster, Shaffer O. & R., 1 ..... gas
33-10-9e Johnson, Carter Oil, 4 194
35-10-9e Sand, T. B. Slick, 7 20
36-10-9e Harjo, Amerada Pet., 2 450
33-10-11 Cubbie, Tidal Osage et al, 1 ..... gas

Well completed 19
Production 4855
Dry 1
Gas 4
Gas production 74,250,000

HUGHES AND McINTOSH COUNTIES

2-9n-9e Bruner, T. B. Slick et al, 1 32
Bruner, T. B. Slick et al 8-W 45
Bruner, T. B. Slick et al, 9-W. 100
3-9n-9e Grayson, T. B. Slick & Gypsy Oil, 4 400
4-9n-11 Baker, Magnolia Pet., 1 74
6-7n-8e Knight, Dixie Oil, 1 1286
3-9n-9e Alexander, Cosden Oil, 3 ..... dry
18-9n-9e Brown, Magnolia Pet., 3 ..... dry
12-8n-8e Walker, Roxana Pet., 1 ..... dry
3-9n-9e Alexander, Cosden Oil, 11 700
4-9n-9e Carter, Mutual Oil, 2 ..... dry
15-9n-9e Smith, T. B. Slick, 1 ..... dry
1-9n-9e Anderson, I. T. I. Oil, 1 505
2-9n-9e Carolina, Independent O. & G., 1 1267
Alexander, Independent O. & G., 5 125
Alexander, Independent O. & G., 6 125
Alexander, Independent O. & G., 8 960
3-9n-9e Alexander, Cosden Oil, 2 50
4-9n-9e Carter, E. L. Robinson & Amerada Pet., 6 260
4-9n-11 Baker, Tidal Osage Oil, 1 ..... dry
29-9n-10 McCalvary, Kingwood - Brock et al, 1 ..... dry

Wells completed 21
Prdouction 6029
Dry 6

MUSKOGEE AND WAGONER COUNTIES

19-14-16 Beams, Voegler, 7 28
2-14-18 Crabtree, H. L. Jolly, 6 15
14-17-16 Atkins, W. A. Dodd, 5 ..... gas
18-17-16 Sugar, Lyons Pet., 1 ..... gas
35-18-16 Burgess, Derby Oil, 1 ..... dry
33-15-18 Garrett, H. L. Jolly, 6 ..... dry
29-18-16 McHenry, J. M. Pennington, 1 ..... dry
26-18-16 Burgess, Lumpkins, 3 ..... dry
9-14-18 Wiley, J. S. McCutcheon, 3 10
11-17-15 Roberson, Sewell & Gillett, 4 8
18-17-15 Sugar, Lyons Pet., 2 ..... gas
1-17-17 Taylor, Lorraine Pet., 8 10

21-17-16 Sarty, Carmacker, 1 ..... dry
29-17-16 Sarty, Gillett & Kerr, 1 ..... dry
25-18-15 McKellop, J. A. McEvoy, 3 ..... dry
2-14-18 Crabtree, H. L. Jolly, 7 8
32-17-15 Bird, Enfisco Oil, 9 25
30-17-17 Wilson, Sewell & Gillett, 1 ..... gas
25-18-15 McKellop, A. E. Carder, 2 35
7-14-19 Tipton, J. W. Hale, 2 ..... dry
19-17-15 Nave, Martin, 1 ..... dry
4-17-18 Posey, R. W. Sawyer, 2 ..... dry

Wells completed 22
Production 139
Dry 10
Gas 4
Gas production 11,000,000

CREEK COUNTY

14-17-8e Fry, Alvard & West, 1-A 90
24-17-8e Green, Lima Oil, 2 ..... gas
18-17-9e Winn, Bu-Vi-Bar Oil, 2 ..... gas
Winn, Bu-Vi-Bar Oil, 3 ..... gas
6-16-9e Turnham, Wolfe Oil Corp., 2 15
30-15-9e Foster, Billingslea & Skelly, 2 912
6-14-9e Long, Shaffer O. & R., 2 ..... gas
28-14-9e Jones, Billingslea, 2 35
4-14-10 Jones, Joemack Oil, 1 40
Harry, Cosden Oil, 1 105
19-14-10 Thompson, Donnelly et al, 1 150
20-14-10 Kimble & Reading, Wilcox O. & G., 6 120
17-15-8e Vassar, The Prairie O. & G. 4 35
23-17-8e Johnson, Savoy Oil, 5 50
17-15-8e Mitchell, Joemack Oil, 4 220
2-14-8e Ponds, Emery & Sons, 7 20
13-14-8e Bearhead, C. G. Tibbens, 2 230
1-19-8e Carolina, Buck Drlg. Co., 2 50
17-18-9e West, H. U. Bartlett, 3 20
6-16-9e Hill, Waite Phillips, 2 70
7-16-12 Maxwell, Hilt et al, 2 35
17-14-10 McNevins, Atlantic Oil, 2 450
20-14-10 Strip, T. B. Slick, 2 415
6-16-9e Hill, Waite Phillips, 3 ..... dry
14-14-9e Marshall, Cosden Oil, 1 ..... dry
14-18-11 Holden, Bennett et al, 6 ..... dry
33-17-10 Tiger, C. J. Wrightsman, 1 ..... dry
4-17-11 Nunn, Ireland et al, 1 ..... dry
1-16-9e Ralston, Slater et al, 1-A ..... dry
21-14-9e Jones, Skelly Oil, 1 ..... dry
31-15-8e Wattie, Phillips Pet., 1 ..... dry
12-14- 8 McKane, Skelly Oil, 4 35
27-14- 8 Jacobs, The Texas Co., 7 100
30-15- 9 Unallotted, Tibbens O. & G., 7 560
17-14-10 McNevins, Atlantic O. P., 3 150
17-15- 8 Roberts, Eeastern Oil, 9 20
7-14- 9 Lewis, Roxana Pet., 1 ..... dry
29-15-9 Smith, Carter Oil, 1 ..... dry
30-15- 9 Carr, Billingslea & Skelly, 3 ..... dry
21-17- 9 Self "A," The Prairie O. & G., 4 ..... dry
32-17-8e Washington, Pure Oil, 2 25
1-16-8e Timothy, Joemack Oil, 2 50
24-17-10 Tahkaney, J. H. Wright, 8 25
8-16-12 Monroe, Riverland Oil, 12 15
24-14-9e Bradbury, Phillips Pet., 2 140
27-19-10 Allen, Vaughn & Wheeler, 5 50
3-17-11 Fife, S. J. Smith, 3 ..... dry
34-16-9e Brady, Twin State Oil, 2 ..... dry
Brady, Transcontinental Oil, 2 ..... dry
33-14-9e Wheeler, Twin State Oil, 1 ..... dry
24-14-9e McIntosh, Phillips Pet. 2 ..... dry

Wells completed 51
Production 4223
Dry 17
Gas 4
Gas production 52,500,000

PAWNEE COUNTY

35-20-7e Chisman, C. H. Burton, 6 20
25-20-9e Townsite, Thomas et al, 1 30
28-20-9e Stoneman, Holmes et al, 1 30
21-20-6e Lesher, Magnolia Pet., 6 230
27-20-6e Ellis, The Texas Co., 2-A 45
24-20-8e Hamilton, Tidal Oil, 12 150
5-22 3e Wolfe, Magnolia Pet., 2 900
32-21- 8 Signon, Adamson et al, 2 ..... dry
3-20- 7 Fleming, Twin State Oil, 6 7
25-20- 7 Brown, Burton & Griffity, 2 40
4-22-3e Bly, Magnolia Pet., 2 20
7-21- 7 Strosnider, New England Oil, 1 ..... dry
21-21- 7 Armstrong, Nixon & Flight, 1 ..... dry

Wells completed 13
Production 1442
Dry 4

PAYNE AND LINCOLN COUNTIES

12-14-6e Townsite, Hoyt & Wicker, 1 50
2-14-5e Oleson, The Texas Co., 1 25
7-18-5e Blue, Marland Oil, 1 25

Wells completed 2
Production 525

KAY COUNTY

21-29-1w McCormick, Comar Oil, 4 165
Harvell, Comar Oil, 2 112
20-29-1e Vaughn, Vernon Oil, 1 ..... gas
34-25-1w McKee, Wentz Oil Corp., 50 4750
McKee, Wentz Oil Corp., 48 2593
McKee, Wentz Oil, 49 2757
28-26-1w Carr, O-Kansas Oil, 1 ..... dry
27-27-1e Lewis, Marland Oil, 1-A ..... dry,
35-25-1w Goltry, Carter Oil, 11 ..... dry,
Goltry, Carter Oil, 12 ..... dry
21-29-1w Duncan, Comar Oil, 3 264
22-29-1w Frost, Gypsy Oil, 2 163
34-25-1w Woods, Amerada Pet., 40 40
1-16-2w Smith "B," The Prairie O. & G., 1 220
Smith "B," The Prairie O. & G., 2 625
Smith "B," The Prairie O. & G., 3 607
21-29-1w Duncan, Comar Oil, 2 236
20-29-1e Bradley, Ona Oil & Carter Oil, 1 ..... gas
1-26-2w Richmond, Marland & Amerada Pet., 1 306
12-26-2w North, Marland Oil, 1 147
North, Marland Oil, 5 200
27-25-1w Davis, The Texas Co., 5 2295
34-25-1w Beverlin, Comar Oil, 19-W 1138

Wells completed 33
Production 15618
Dry 2
Gas 4
Gas production 35,500,000

GARFIELD AND NOBLE COUNTIES

19-22-3w Crews, Crews heirs, 17 80
20-24-1w Reed, Davenport Oil, 1 ..... dry

7-22-1w Weigle, Braden Brothers .... dry
2-24-1w Blubaugh "A," Comar Oil, 15-W 209
13-22-4w Walker, Sinclair Oil, 1 600
24-22-4w Belveal, Sinclair Oil, 25 2500
18-22-3w Schroeder, Roxana Pet., 7 675
15-21-2w Sans, Bu-Vi-Bar Pet., 1 70
13-22-4w School land, Cosden Oil, 40 500
19-22-3w Kisner, Sinclair Oil, 14 50

Wells completed 10
Production 4654
Dry 2

CARTER COUNTY

33-1s-3w Lusk, Humble O. & R., 2 225
27-2s-3w Johnson, Page Oil, 6 .... gas
8-3s-2w Mayes, Merrick-Cameron Refg., 1 84
28-5s-1e Westheimer, Amerada Pet., 5 .. 145
32-1s-3w Johnson, Magnolia Pet., 3 142
28-5s-1e Clay, Amerada Pet., 8 207
27-5s-1e Fish, Amerada Pet., 1 .... dry
28-5s-1e Clay, Amerada Pet., 10 .... dry
28-1s-3w McCrary, Tidal Oil, 1 50
31-2s-2w Bennett, Magnolia Pet., 4 25
9-4s-2w Lowery, Simpson & Fell, 1 172
28-5s-1e Clay, Amerada Pet., 9 80
28-5s-1e Fish, Amerada Pet., 4 .... dry
27-1s-3w Poland, W. & D., Newstadt, 1 20
28-1s-3w Hales, Humble O. & R., 3 270
34-1s-3w Fish, Magnolia Pet., 1 35
23-2s-3w Williams, Magnolia Pet., 5 15
28-2s-3w McClure, Gypsy Oil, 1 .... gas
31-2s-2w Bennett, Magnolia Pet., 14 100
5-3s-2w Dickerson, Schermerhorn et al 4 20
Poland, Southern Pet., 4 40
8-3s-2w McGill, Schermerhorn Oil, 4 40

Wells completed 22
Production 1670
Dry 3
Gas 2
Gas production 27,000,000

STEPHENS AND COTTON COUNTIES

31-1n-8w Malechi, Smith-Law et al 4. 50
22-1s-8w Worrel, Fisher & Brannon 3 .. 60
33-1s-8w School land, Magnolia Pet. 14 19
25-1n-9w Harris, Magnolia Pet. 10 32
26-1n-9w Coffelt, W. M. Priddy 2 .... gas
30-1n-8w Cook, Magnolia Pet. 5 30
27-1s-8w Schick, Walker Valley Oil 1-A 25
32-1s-8w Shelton, Crump & Beard 2.. 30
Shelton, Crump & Beard 3.. 30
30-2n-6w Indian, Zock et al 1 .... dry
14-1s-8w Kukuk, Crump & Beard 1-A. dry
32-1s-8w Story, Empire G. & F. 1 40
13-2s-8w McMaster, Anderson & Schoolmaker, 1-A .... gas
Mooks, Magnolia Pet. 3 .... dry
22-1s-8w Worrel, Fisher & Brannon 4 50
27-1s-8w Tallaferro, Palmer Evans 1-A gas
32-1s-8w Shelton, Gant et al 6 60
26-1n-9w Coffelt, Winkley et al 1 .... dry
33-1n-7w Sledge, Gibbons et al 1-A .... dry
14-1s-8w Kukuk, Crump & Beard 1-B dry
24-2s-8w Andrea, Magnolia Pet. 2 .... dry

Wells completed 21
Production 426
Dry 7
Gas 3
Gas production 7,250,000

MISCELLANEOUS COUNTIES

Caddo County—
6-5n- 9w Culp, Briscoe & Hall 3 40
1-5n-10w Davis, English Drlg. Co. et al. 2 50

Garvin County—
17-1n-3w Deryden, T. P. C. & O. Co. 2 50
16-1n-3w Mauldin, Magnolia Pet. 3-A dry
17-1n-3w Deryden, Carter Oil 1 40
9-2n-2e Gibson, Black Pet. 1 .... dry

Grady County—
23-5n-8w Edmondson, Okla. Natural Gas 2 .... gas
35-5n-8w McCaughtry, Hagerling et al 2 .... dry
26-5n-8w Smith, Little Nick Oil 3 .... gas
2-4n-8w Deryden, Briscoe & Hall, 1 .... gas

Jefferson County—
31-4s-8w Anderson, Counell Oil 1 .... dry
34-6s-5w Seay, The Prairie O. & G. 3 .. 220
Seay, The Prairie O. & G. 1 .. 50

Kiowa County—
3-7n-17w Countryman, Aubyme Oil 1 dry

Murray County—
2-2n-5e Pine, Black & Thompson 1 .... dry

Johnson County
7-4s-4e Trootes, Washita O. & G. 1. dry

Nowata County—
Newlin, Fred Gray et al 1 .... dry
4-25-17 J. B. Lemar, Freedon Bros. 1. 5
16-26-16 Newlin, Fred Gray et al 2.. dry
27-27-16 Wilson, Harmon et al 17 .... dry
Wilson, Harmon et al 18 .... dry
4-25-17 Lemar, Freedon Bros. 2 8
17-25-15 Thompson, Selby Oil 1 .... dry
18-25-14 Fee, Grandle Bros. 1 10

Rogers County—
24-22-16 Bayless, Lee F. Ross et al 1.. 15
10-24-17 Paris, J. H. Bushfield et al 21 1
24-22-10 Bayless heirs, Lee F. Ross et al 2 10
22-24-17 Stewart, Central Union Oil 17 dry
22-24-16 Douglass, Woodard & Crenshow 12 .... gas
22-24-17 Fee, Fleming & Bedford 8 .... dry

Washington County—
17-25-13 James, J. B. Olmstead 1 5
32-24-13 Beavers, C. R. Hall et al 1 .... dry
12-25-12 Irwin, John Irwin 1 .... gas
11-25-12 Sturm, E. Pattrell 3 .... dry
19-24-13 Henry & Nancy, F. S. Sheeders et al 1 25
26-29-13 Sullivan, Lennox O. & G. 2.. dry
18-29-14 Welch, Alimo Oil 9 10

Pontotoc County—
6-3n-7e Lloyd, Lloyd & Smith 1 20
32-5n-5e Brown, Brinson et al 1 .... dry

Tillman County—
10-4s-8w Coush, A. E. Spears 1 .... dry

Wells completed 40
Production 459
Dry 18
Gas 5
Gas production 70,335,000

OSAGE COUNTY

Rigs

3-20-12 Grimes & Gillespie 25.
1-21-8e I.T.I. Oil 2, 3, 4.
2-21-8e Skelly Oil et al 2, 3.
20-21-9e Barnsdall Oil 21.
6-21-11 Titus et al 8.
20-21-11 Winona Oil 2.
21-21-11 K. R. Holm 2.
9-21-12 J. H. Alexander 1.
29-23-8e Rod Bank Oil 7.
8-23-10 Mid-Kansas Oil 1.
32-24-9e Peters et al 2, 5.
33-24-9e Peters Pet. 4.
12-24-11 Lewis Freidman 3.
24-25-7e Gilliland Oil 7.
27-25-7e Atlantic Oil 4.
17-25-8e Foster & Davis 10.
10-25-10 Phillips Pet. 1.
24-25-11 Devonian Oil 9.
24-26-5e Gypsy Oil 1.
12-27-5e Phillips Pet. 1, 2, 5.
16-27-5e Phillips Pet. 4.
25-27-5e Phillips & Skelly 16.

Wells Drilling

21-20-11 Sands Springs Home Oil 3-A.
28-20-11 Gray Oil 8.
30-20-11 Sands Springs Hme Oil 1.
18-20-12 Okla. Eastern Oil 1.
1-21-8e Barnsdall Oil 4.
2-21-8e Waite Phillips 1.
24-21-8e Barnsdall Oil 4.
24-21-8e Mid Co Oil 1.
15-21-9e Sand Springs Home Oil 1.
24-21-9e Sands Springs Home Oil 84.
14-21-10 Devonian Oil 1.
23-21-10 Tidal et al 4.
9-21-12 James G. Glenn 1.
15-21-12 Howard et al 1.
31-21-12 Grimes & Gillespie 15.
32-21-12 Grimes & Gillespie 11.
25-22-8e The Texas Co. 1.
27-22-8e Acacia Oil 2.
8-22-9e Atlantic O. & P. Co. 3.
3-22-10 Owen Osage Gas 319.
15-22-10 Foster & Alexander 1.
34-22-10 Tidal Osage Oil 41, 43.
12-22-11 D. F. Millard 1.
10-23-8e Superior Oil 1.
4-23-9e Peters & Markham 13.
21-23-10 Mid-Kansas Oil 1.
25-24-8e Tidal Osage Oil 7.
30-24-8e Amerada Pet. 1.
32-24-8e R. E. Seamans 1.
36-24 8e H. V. Foster 36.
20-24-9e Tidal Osage Oil 7.
23-24-9e Foster & Norwood 30.
24-24-9e Tidal Osage Oil 14.
32-24-9e Oliphant et al 4.
12-24-10 Barnsdall Oil 17-A.
33-24-10 Peters Pet. 9.
11-24-11 Barnsdall Oil 3.
12-24-11 Titus et al 5.
18-24-12 Marland Oil 49.
12-25-5e Midland Oil 1.
13-25-6e Clark & Barnes 1.
19-25-8e Oliphant et al 4.
20-25-8e Mid Kansas Oil 1.
27-25-8e Atlantic Oil 6.
28-25-8e E. B. Lawson 11, 13.
29-25-8e The Texas Co. 12, 14, 15.
29-25-8e Lewis Oil 3.
31-25-8e Oliphant et al 1.
4-25-9e Petroleum Drlg. Co. 13.
33-25-11 Plymouth Pet. 1.
34-25-11 Devonian Oil 1.
16-26-6e Carter Oil 14.
20-26-6e Carter Oil 4.
21-26-6e Lewis Oil 3, 4, 5.
Lewis Oil 4, 6, 7, 8.
1-26-9e Ike Johnson et al 1.
25-26-9e The Texas Co. 1.
32-26-12 Skelton & Moore 6.
11-27-5e Phillips Pet. 2, 4, 6, 14, 15, 16.
12-27-5e Phillips Pet. 4, 8, 13, 14, 16.
Phillips Pet. 6, 13.
13-27-5e Carter Oil 11, 12, 13.
Carter Oil 13, 14, 15, 16.
22-27-5e Skelly & Phillips Pet. 1.
25-27-5e Phillips & Skelly 15.
18-27-6e Phillips Pet. 11, 12, 15.
The Texas Co. 12, 14.
6-27-7e Sinclair Oil 1.
17-27-10 Presburg et al 3.
18-27-12 Winona Oil 1.
21-28-7e Gypsy Oil 1.
15-28-9e A. M. Landon 1.
36-28-10 Owen Osage Gas 323.
28-28-11 Duffield & Howard 3.
12-29-9e Wah Sha She 1.
27-29-11 Wiser Oil 7.
12-27-5e The Prairie O. & G. 1, 2, 3, 4 12, 13.
The Prairie O. & G. 1, 2.

Shut Down

21-21-10 Mid Co Oil 1.
4-23-10 Slinguff 2.
29-24-10 Rex Pyramid Oil 1.
20-25-8e Mid Kansas Oil 2.
29-25-8e The Texas Co. 9.
24-25-9e Steyner et al 4.
34-25-9e C. K. Dresser 16.
1-25-11 Robinson et al 5.
Rigs, 28; wells drilling, 119; total, 147.

TULSA COUNTY

Rigs

4-19-10 Lindsey, Steele et al 1.
21-19-11 Cooper, Minshall O. & G. 4.
34-19-11 Incoe, Riverland Oil 2.
5-19-12 Grayson Echol Oil 4.
20-19-12 Jargee, Munn et al 2.
29-19-12 Unallotted, Brooks Drlg. 2.
4-19-14 Grayson, S. L. Johnson 1.
2-18-12 Unallotted, Edwards et al 2, 3.
34-17-13 Gilcrease, S. W. Anthony 1.
19-17-13 Coppedge, W. E. Hammond et al 1
1-17-14 McHenry, Frates Oil 3.
27-17-14 Slinton, Sparks et al 1.
35-16-13 Cooper, W. B. Pine 1.

Wells Drilling

26-19-11 Franklin, Baker & Lynch 1.
27-19-11 Gaylord, Riverland Oil 1.
35-19-11 Inchoe, Riverland Oil 1-A.
36-19-11 Franklin, William Wood Synd. 1-A
4-19-12 Childers, F. B. Jackson et al 1. Partridge, Shaffer O. & R. 3, 9. Partridge, I. D. Simmons 5.
5-19-12 Grayson, Echo Oil 3. Partridge, Shaffer O. & R. 5. Berryhill, Sand Springs Home Oil 8, 9.
9-19-12 Unallotted, John King, 1.
19-19-12 Fisher, Sand Springs Home Oil 1.
20-19-12 Jargee, Highway Drlg Co. 10. Berry, Thornton et al 14. Jargee, Munn et al 3.
21-19-12 Douglass, Thornton et al 1-A.
29-19-12 Postoak, H. C. Wilson, 4. Postoak, Gladys Belle Oil 1.
6-18-12 Gray, Gypsy Oil 11.
12-18-13 Chisholm, Red Bank Oil 1.
36-18-12 Fry, Bruner Oil 1.
24-17-12 Tingle, Thompson & Black 1.
25-17-12 Keefa, Henry Oil 1.
36-17-13 Montgomery, B. W. Wilmot 1.
2-17-14 Gaines, Green et al 2.
15-16-12 Grayson, Riverland Oil 1.

Shut Down

31-19-12 Jackson, F. A. Gillespie 4.
34-18-14 Childers, T. O. Lillystrand 1.
30-17-14 Deprest, Mays Bros. 2.
Rigs, 14; wells drilling, 31; total 45.

OKMULGEE COUNTY

Rigs

27-16-12 Haskins, Independent O. & G. 10.
34-16-12 Vore, Sheldon & Superior 5.
3-15-11 Grayson, Webster et al 8.
Simmons, Enfisco Oil 1.
9-15-11 Strip, Indiahoma Rfg. 2.
11-15-41 Adams, Cosden Oil 5.
32-15-11 Berry, Eastern Oil 11, 12.
7-15-12 Doneghy, Iron Mtn. Oil 1.
11-15-12 Haynes, Olean Pet. 2.
5-13-12 Baker, King & Evans 1.
11-13-12 Proctor, King & Jackson 2.
31-12-12 Derrisaw, Simms Oil 4. Jordan, Simms Oil 3. Rentie, Simms Oil 3-A, 5, 5-B. Rentie, Aztec Oil 1, 4.
32-11-12 Ashbury, Webb et al 1.
25-13-11 Lewis, J. A. Swindler et al 1.
24-13-14 Johnson, Iron Mtn. Oil 13.
30-13-15 Sampson, C. E. Campbell 5.
15-14-14 Colbert, D. Beams, 4.
22-14-14 Wright, Clarion Oil 7. Wright, Kewanee Oil 9.
8-14-15 Anderson, J. L. Powell, 5.
7-15-13 Wisener, Okla. Eastern Oil 4.
2-15-14 Barnett, Ozark Drlg. Co. 1.
21-15-14 Osborn, Hastings 1.

Wells Drilling

36-12-13 Bruner, Pulaski Oil 7.
16-13-15 Lovett, Helena 2.
30-13-15 Sampson, C. E. Campbell 7.
21-14-14 Grayson, W. R. Sommerville 1-A.
21-15-14 Osborn, Papoose Oil 8, 22.
30-15-14 Dawson, A. W. Cline 3.
14-16-11 Cowan, Creekmore 1.
21-16-11 Hodge, Amerada Pet. 1.
29-16-11 Grayson, Sheridan Oil 1.
24-16-12 Self, Gibdeness et al 1.
28-16-12 Willis, Berry Pet. 1.
34-16-12 Meadors, Meadors & O'Brien 3. McGee, Sheldon Oil 4. Vore, Sheldon & Superior Oil 4.
3-15-11 Fee, Clover 4.
12-15-11 Pendleton, Pollyana Oil 8.
17-15-11 Gibson, Shaffer O. & R. 4.
23-15-11 Bruner, Le Bean et al 1.
32-15-11 Goodno, Misener et al 4.
36-15-11 Hawkins, Red Bank Oil 1-A.
1-15-12 Raymond, Meridian Oil 1.
3-15-12 Messer, T. A. Johnson & Co. 1.
4-15-12 Kible, McCarthy et al 1. Cover, Mueller, Jordan & Ashley 1
11-15-12 Haynes, Olean Pet. 1.
11-15-12 Sitler, Central Natl Oil 1.
14-15-12 Hogan, Olean Pet. 2.
24-15-12 Blair, Savoie et al 1.
2-14-11 Adams, Detrick & Detrick 7.
16-14-11 Lunsford, Clarian Oil 1.
25-14-12 Cook, King & Jackson 1.
27-14-12 Cheote, W. C. Newman 1.
23-13-11 Muroll, Waite Phillips 1.
25-13-11 Kemp, Eastern Oil 10. Kemp, Pure Oil 5.
26-13-11 Murrell, A. B. Ice 4.
28-13-11 Roberts, Mt. State & Clark 1. Sands, E. R. Black 1.
32-13-11 Beets, Brooks et al 9.
33-13-11 Roberts, Indiahoma Oil 4.
2-13-12 Skelton, Barbara & McMahon 2.
11-13-12 Budleman, King et al 3.
28-13-12 Kanard, Magnolia Pet. 1.
33-13-12 Larney, W. C. Newman 2.
7-12-12 Wilson, Morton & Co. 2.
31-12-12 Rentie, Independent, Kingwood et al 1-A. Rentie, Wooster & Mee 4. Rentie, Aztec Oil 4.
5-11-12 Jackson, Buckles et al 2.
15-11-12 Woods, M. F. Evans et al 1.

Shut Down

34-16-12 Vore, R. Poe 1.
29-15-11 Thompson, Kellough et al 3.
14-15-12 Sheppard, Frazier et al 1.
22-13-11 Smith, C. L. Detter et al 1.
33-13-12 Wilson, Holly Oil 1.
9-11-12 Hawkins, Moffett & Slick 1.
5-12-13 Mickens, Gray 2.
17-14-13 Berryhill, E. J. Lambert 3.
20-15-13 Prince, J. J. Schock 1.
26-15-13 Sugar, Vollentine 2.
34-15-14 Grayson, M. L. Carr 29.
Rigs, 30; wells drilling, 62; total 92.

SEMINOLE COUNTY

Rigs

28-11-8e Baker, Waite Phillips 1.
33-11-8e Wiliams, Cosden & Waite Phillips 6, 7, 8.
33-11-8e Hill, Sinclair & Houston Oil 2. Williams, Carter & Pulaski Oil 2. Baker, Carter & Pulaski Oil 3, 4. Jackson, Gypsy Oil 8. Brown, Gypsy Oil 1.
34-11-8e Jackson, Sinclair Oil 2. Foster, McMann & Magnolia Pet. 5
2-10-8e Little, Skelly Oil 1.
3-10-8e Dunn, Carter Oil 1.
5-10-8e Fixico, Gypsy Oil 1, 2. Williams, Gypsy & Laurel Oil 2. Williams, Magnolia Pet. 2, 3.
10-10-8e Little, Carter Oil 1.
15-10-8e Tiger, Roxana Pet. 3.
25-8n-7e Ligon, Dixie Oil 2.
6-7n-8e Dindy, Superior Oil 1.
24-8n-5e Nitley, Riverside & Kinney 1.
33-11-8e Jackson, Pure Oil 3. Lester, The Prairie O. & G. 3, 4.

Wells Drilling

14-11-7e Harjo, Central Natl Oil 1.
1-11-8e Fields, Howarth O. & G. 1.
15-11-8e Lena, Guy Fisher 1.
31-11-8e Susey, Berry Pet. 1.
32-11-8e Roberts, Cosden Oil 1.
33-11-8e Williams, Cosden & Waite Phillips Oil 3, 4, 5. Jackson, Pure Oil 5. Pierce, Mutual Oil 4, 5, 6, 7, 8. Jackson, Pure Oil 6. Pierce, Sinclair Oil 3, 4, 7, 8. Hill, Sinclair & Houston Oil 1. Baker, Carter & Pulaski Oil 1, 2. Jackson, Gypsy Oil 4, 5, 6, 7.
34-11-8e Jackson, Sinclair Oil 1. Hill, Sinclair Oil & Gardner, 4, 8. Foster, McMann & Magnolia Pet. 3, 4.
33-10-8e Davis, F. J. Searight 1.
31-10-7e Lack, Wrightsman & Gardner, 1.
3-10-8e Hill, Nowata O. & R. 1. Little, Southwestern Pet. 2, 3, 8. Dunn, Carter Oil 4, 10, 11, 12, 13, 14, 15. Yarhola, Roxana Pet. 4.
4-19-8e Fixico, Gypsy Oil & Laurel Oil 5, 6, 7, 8.
5-10-8e Fixico, Sinclair Oil 1, 3. Sarkey, Laurel Oil 1. Williams, Gypsy & Laurel Oil 1. Sampson, Gypsy Oil 3, 4. Williams, Magnolia Pet. 1.
6-10-8e Lowe, Denver P. & R. Corp. 1.
8-10-8e Willis, Gypsy Oil 7.
9-10-8e Hale, Gypsy Oil 6. Hill Carter, Oil 4.
10-10-8e Berryman, Roxana Pet. 1-A. Hill, Carter Oil 1. Little, Shaffer O. & R. 1.
15-10-8e Tiger, Snowden & McSweeney, 4. Harjo, Houston Oil 3.
16-10-8e Stidham, T. B. Hoffer et al 3.
1-9n-5e Sanjo, F. J. Searight, 1.
15-9n-6e Noble, Superior Oil 1.
9-9n-8e Grayson, Waite Phillips Oil 1.
16-9n-8e Young, Roxana Pet. 1.
22-9n-8e Williams, Holmes & Jarvis 1.
24-9n-8e Simon, Kingwood & Empire 1.
31-8n-6e Pullatka, Superior Oil 1.
12-8n-7e Kelly, Magnolia Pet. 1.
15-8n-7e Carolina, Magnolia Pet. 1.
25-8n-7e Yornoh, Magnolia Pet. 1.
35-8n-7e Jones, Magnolia Pet. 1.
36-8n-7e Logan, W. R. Ramsey 2. Cunsah, W. R. Ramsey 2.
19-8n-8e Stokes, W. R. Ramsey et al 1. Davis "A," W. R. Ramsey et al 1.
28-8n-8e Foster, Dixie Oil 5.
29-8n-8e Josua, Magnolia Pet. 1. Walker, Magnolia Pet. 1, 3.
30-8n-8e Bowlegs, Gardner Pet. 1. Yarhola, W. R. Ramsey 1.
31-8n-8e Sampson, W. R. Ramsey 1, 2. Salinda, W. R. Ramsey 1, 2. Amos, W. R. Ramsey 2, 3. Bowlegs, W. R. Ramsey 2. Bowlegs, P. & R. Corp. 1-A, 2. Amos, P. & R. Corp. 4, 5, 6, 7, 8. Salinda, P. & R. Corp. 3. Willis, Rocks, Oil & Sykes 6, 6-A.
32-8n-8e Tiger, Magnolia Pet. 4.
33-8n-8e Long, Lewis & Clark 3.
34-8n-8e Carter, P. & R. Corp. 1.
4-7n-6e Walker, Bryan Brothers 1.
12-7n-7e Cudjo, Magnolia Pet. 1.
22-7n-7e Davis, Transcontinental Oil 1.
5-7n-8e Grayson, Dixie Oil 1-B.
6-7n-8e Knight, Dixie Oil 2, 3. Carolina, Homaokla Oil 1.
Skinner, Champlin, Bass et al 1. Hawkins, Buttram, et al 1.
23-6n-5e Dorman, T. B. Slick 1.
20-6n-7e Dindy, McDougal et al 1.
27-6n-7e Chupco, T. B. Slick 1.
6-6n-8e Winey, R. F. Garland & Co. 1.
8-10-8e Buckner, Prairie O. & G. 16.
3-10-8e Owens, Prairie Oil & Gas 2, 3.
32-11-8e Lester, Prairie Oil & Gas 1, 2.

Wells Shut Down

14-10-7e Aldridge, Killibrew & Moore 1.
8-10-8e Deer, Devonian Oil 1.
9-10-8e Bunner, Pure Oil 12.
10-10-8e Little, McMann Oil 4.
15-10-8e Tiger, Snowden & McSweeney 3.
16-10-8e Roberts, Carter Oil 5.
33-6n-6e Christy, Maxwell & Harvey 1.
14-6n-7e Carolina, Link Oil 1.
Rigs, 27; wells drilling, 135; total, 162.

OKFUSKEE COUNTY

Rigs

4-13-8e Saryokishe, Link Oil 2.
28-13-8e Hill, Dalton & Baker 1.
28-12-10 Johnson, Central National Oil 1.
27-12-11 Holmes, Hartman 1.
33-12-12 Jacobs, Independent O. & G. 3. McCoy, Josey Oil 9.
34-12-11 Deer, G. & M. Oil 1.
36-12-11 Rentie, McMahan et al 14.
2-11-11 Smith, Tidal Oil et al 1. Watson, Midal Oil 1.
3-1-11 Fields, Mid-Cont Pet. 5. Fields, Barbara Oil 2.
28-11-11 Unalotted, Vincent et al 1.
14-10-8e Haner, Roxana Pet. 4. King, White Eagle O. & R. 2.
16-10-9e Tecumseh, The Texas Co. 1.
34-10-9e Williams, J. T. I. Oil 5, 7, 8. Williams, Gypsy Oil 8.
14-10-11 Ben, Mid-Kansas Oil 1.

Wells Drilling

33-13-7e Scott, Independent O. & G. 1.
16-13-9e Hays, Bingham & Smith 1.
1-12-7e Bruner, Waite Phillips 1.
14-12-8e Billy, Western States Oil 1.
22-12-9e Montgomery, Sinclair Oil 1.
9-12-10 Summers, Pratt & Burton 1.
36-12-10 Gray, Atlantic O. P. & A. Fisher, Atlantic & Carter Oil 4. Brook, Atlantic & McMahan 3.
22-12-11 Barnett, Hartman & Mann 7.
33-12-11 Fields, Josey Oil 2, 3. Jacobs, Independent O. & G. 2. Carolina, Independent O. & G. 4. McCoy, Josey Oil 3, 5, 6, 7, 8.
36-12-11 Rentie, Aztec Oil 12.
19-11-9e Simmer, Wilcox O. & G. 1.
36-11-9e Wind, Olean Pet. 2.
23-11-10 Barnett, Waite Phillips 1.
2-11-11 Garpett, Tidal Oil et al 1.
4-11-11 Cully, Anglo-Texas Oil 1.
7-11-11 Smith, Josey Oil 1.
15-11-11 Jacobs, Deaner et al 2.
22-11-11 Holmes, Windsor Oil 4. Grayson, Windsor Oil 1. Guy, Windsor Oil 2, 3.
30-11-11 Holmes, Riverland Oil 1.
35-11-11 Burnett, L. Umborn 2.
12-11-7e Fipps, Amerada Pet. 1.
26-11-7e Schobe, C. J. Wrightsman 1.
6-11-8e Pierce, Waite Phillips 1.
14-10-8e King, Snowden & McSweeney 3. Haner, Roxana Pet. 3. King, Tidal & Carter Oil 1, 2.
16-10-9e Tecumseh, Gibson & Zahniser 1. Bruner, Kingwood Oil 1. Bruner, Burke, Greis 1, 2. Wells, Waite Phillips Oil 1.
17-10-9e Richardson, Cosden et al 1.
22-10-9e Samuel, Fuhrman & Shaffer Oil 1.
33-10-9e Barnett, Jennings et al 1, 2. Johnson, Carter Oil 1, 7, 8. Barnett, Arkansas Fuel Co. 1. Wallace, Foster Inv. 1.
34-10-9e Bruner, Waite Phillips Pet. 1. Williams, I. T. I. Oil 4, 1-A. Williams, Gypsy Oil 3, 4.
35-10-9e Carboge, Cosden Oil 6. Sand, Kingwood Oil 4. Dunson, C. L. McMahon 2.
36-10-9e Harjo, Amerada Pet. 3. Dacon, Amerada Pet. 3.
25-11-9e Wright "A" Prairie O. & G. 1.
19-11-10 Johnson, Prairie O. & G. 1.
35-10-9e Westbrook, Prairie O. & G. 5.
34-10-9e Davis "A" Prairie O. & G. 3, 5. Davis "B", Prairie O. & G. 1.

Wells Shut Down

8-12-10 Yarhols, Blakely et al 1.
23-12-10 Harjo, Blakely et al 1.
25-12-10 Fisher, Wedell & Blakely 1.
3-11-11 Meyers, W. B. Pine 4.
5-11-11 Sears, Hartman et al 1.
14-11-11 Taylor, No. Baltimore Oil 1.
28-11-11 Thomas, Vincent et al 1.
34-10-9e Williams, Gypsy Oil 5, 7.
35-10-9 Dunson, T. B. Slick 1, 2. Sand, Kingwood Oil 5.
Rigs, 21; wells drilling, 83; total, 104.

HUGHES-McINTOSH COUNTIES

Rigs

1-9n-9e Arbor, Josey Oil 3.
Anderson, Independent O. & G 1.
2-9n-9e Carolina, Gypsy Oil 1. Carolina, Independent O. & G. 3.
4-9n-9e Tiger, Transcontinental 10.

Harjo, Magnolia Pet. 2.
Baker, Tidal Osage Oil 6.
Croachman, Tidal Osage Oil 3.
Harjo, Tidal Osage Oil 2.
Harjo, Gibson & Zahniser 1.
Harjo, Gibson & Ashe 2.
Jefferson, Johnson & Ashe 2.
Diamond "B," Dixie Oil 1.
Alexander, Carter Oil 2.
Narcome, W. R. Ramsey 1.
Jacobs, P. & R. Corp. 2.
Sewell, Atkins, et al 1.
Stewart, Parmenter et al 1.
Pearson, Henry, Greis & Kerr 1.

Wells Drilling

Wineblood, Montague-Texas Oil 2.
Simon, Burk Greis 1.
Cain, Minnehoma Oil 1.
Anderson, I. T. I. Cil 2. 4.
Arbor, Josey Oil 2.
Bruner, Independent O. & G. 1, 3, 4.
Carolina, Skelly Oil 1.
Alexander, T. B. Slick et al 1-A.
Bruner, T. B. Slick et al 5, 10, 11 12.
Carolina, Independent O. & G. 2.
Alexander, Independent O. & G. 6, 7, 8.
Alexander, S. Independent O. & G. 7.
Grayson, T. B. Slick 2, 4.
Grayson, (McKay), T. B. Slick 4. 5, 6, 7, 8.
Alexander, Cosden 13.
Arber, Phillips Pet. 2, 3.
Davis, Kingwood Oil 6.
Tiger, Foster Inv. 4.
Carter, Skelly Oil 2.
Carter, Mutual Oil 3.
Carter, E. L. Robinson & Amerada Pet. 7.
Alexander, Berry Pet. 1.
Davis, Turman Oil 1.
Brown, Margay Oil 1.
Charles, I. T. I. Oil 1.
Charles, T. Atkins et al 1.
Bowlegs, Gypsy Oil 1.
Bowlegs, W. R. Ramsey & Dempsey 1.
Harjo, Independent O. & G. 1.
Buck, Superior & Fuhrman 1.
Dunzy, E. P. Hawkins 1.
Sutton, Tidal Osage Oil 7, 8.
Moore, Tidal Osage Oil 1.
Byrd, Magnolia Pet. 4.
Baker, Tidal Osage Oil 5, 6, 7.
Harjo, Tidal Osage Oil 1.
Byrd, Mid-Kansas Oil 3, 4.
Hildebrandt, Mid-Kansas Oil 3.
Tropp, Mid-Kansas Oil 1.
Walker, Roxana Pet. 1.
Herrod, Roxana Pet. 1.
Archer, Gypsy Oil 1.
Jeferson, Johnson & Ashe 1.
Harjo, McMillan et al 1.
Diamond, Sinclair Oil 1.
Diamond "C," Dixie Oil 1.
Alexander, Dixie Oil 1.
Morrison, Independent O. & G. 1.
Proctor, Independent O. & G. 1.
Shawnugo, R. T. I. Oil 1.
Manley, Magnolia Pet. 1.
Unknown, W. R. Ramsey 1.
Kiles, Walton, Snyder & Marshall 1.
Hampton, Prairie O. & G. 2.
Harjo, Prairie O. & G. 1.
Hawkins, W. B. Pine 2.

Wells Shut Down

Brown, Margay Oil 2, 5, 6.
Brown, Roxana Pet. 1. 2.
Simon, Gilcrease 2.
Manley, Sinclair Oil 1.
Larney, Dixie Oil 1.
McClain, Mathers & Skelly 1.
Porter, Wigton & Long 2.

Rigs, 13; wells drilling, 84; total, 102.

MUSKOGEE-WAGONER COUNTIES

Rigs

McGilbray, J. S. McCutcheon 2.
Evans, T. E. Neary 1.
Crossley, H. E. Jones 1.
White, Larsarskey 2.

Wells Drilling

Hood, Pike & Klatt 1.
Jefferson, Stone Min. Oil. 3.
Brown, Leasburg 3.
Grayson, Iona Oil 5.
Lee, W. N. Harsha 5.
Lee, Hutchinson 6.
Simmons, D. C. Lampton 1.
Sugar, Bradley & Smith 2.
Mcnellop, Wickham 1.
Pike, Munsie Oil 4.
Dan, W. McDougal 1.
Luckey, Martin 6.
Mcintosh, Perry 1.
Morey, E. M. Swanson 3.
Roberts, P. E. Hill 2.
Burgess, Lumpkins 4.

Wells Shut Down

Harris, E. M. Johnson 1.
Canard, J. Summers 2.
Pouncil, J. L. Powell 2.
Manuel, W. J. Anicker 1.
Johnson, O. S. Eastman 1.
Vernor, J. J. Maroney 3.
Marshall, E. Coady 1.
Tiger, J. L. Towner 4.
Tiger, B. B. Wheeler 1.

Rigs, 4; wells drilling, 25; total, 29.

CREEK COUNTY

Rigs

Hinton, Kiskaddon et al 2.
Bishop, Transcontinental Oil 1.
Mcintosh, Bu-Vi-Bar Pet. 1.
Morrison, Transcontinental Oil 1.
Washington, Savoy & Page 2.
Emarthia, Oklahoma Nat. Gas 1-A.
Yarnoia, Pure Oil 15.
Wilson, Roxana Pet. 11.
Bruner, Eastern Oil 5, 10.
Beaver, Sauly Oil 1-A.
McKane, Skelly Oil 5.
Bearnad, C. G. Tibbens Oil 3.
King, H. U. Bartlett et al 3.
Jones, Eva Bell Oil 3.
Haynes, Hartman & Williams 1.
Ware, Damar Oil 1.
Ireland, Smith et al 1.
Barnett, Dickerson et al 1.
Sharpoe, Transcontinental 16.
Monroe, Riverland Oil 13.
Unallotted, Tibbens O. & G. 11, 12, 13, 14, 15, 19.
Bradbury, Phillips Pet. 3.
Jones, Billingslea 4.
Groom, Evans et al 1.
Thompson, Donnelly et al 2.
Strip, T. B. Slick 1.
Rentie, Prairie O. & G. 9.
Bearnead, Prairie O. & G. 3.

Wells Drilling

Grayson, J. B. Grimes 3.
Ross, Shaffer O. & G. 2.
Miller, Gled Oil 1.
Miller, Oklahoma Eastern Oil 1.
Williams, J. D. Chronic 1.
Benson, Blauner & Hartley 1.
Bishop, Madden & Madden 2, 3.
Johnson, Aztec Oil 3.
Johnson, Atlantic Oil Prod 3, 4.
Tucker, Roxana Pet. 1.
Johnson, Savoy Oil 6.
Green, Lima O. & G. 4.
Alec, T. B. Slick 1-A.
Yarhola, Olean Pet. 3.
Artusse, Setain Bros 1.
Washington, Olean Pet. 3, 4, 6.
Willis, Olean Pet. 5.
Fixico, Red Bank Oil 1.
Wilson, Cortez Oil 6.
Knoll, Laurel O. & G. 9, 10.
Micco, Phillips, Pet. 3.
Rogers, F. R. Billingslea 1.
Fmarthia, Oklahoma Nat. Gas 1.
Knight, Kawana O. & G. 2.
Roberts, Eastern Oil 8.
Wilson, Independent O. & G. 1.
Davy, J. W. Henry 2.
Ponds, Gypsy Oil 5.
Williams, The Texas Co. 6.
Bruner, C. G. Tibbens 3.
McKane, Skelly Oil 5.
Mitchell, Papoose Oil 1.
Robinson, Pure Oil 1.
Tucker, Gled O. & G. Shaffer 1.
Cates, Waite Phillips 1.
Atkins, Tidal Oil 1.
West, The Texas Co. 1
Parks, Schooley et al 1-A.
Allen, Vaughn & Wheeler 6.
Taylor, Cole et al 1.
Fellows, Bu-Vi-Bar 1.
Doyle, Dick B. Mason 1.
Charcotenne, Wood & Farren 3.
Roberts, Pure Oil 1.
Gwin, R. T. Wright et al 1.
Dickson, O. P. Stoner 1.
Wiley, Adams & Gilpin 1.
Turnham, Waite Phillips 1.
Barnett, T. P. C. & O. Co. 2.
Mosquito, T. P. C. & O. Co. 2.
Unallotted, Penrod & Thompson 1.
Jacobs, Emery & Son 5.
Maxwell, Ireland et al 4.
Wagoner, Foster et al 1.
Fahcoconeney, Phillips Pet. 6-A.
Foster, Billingslea & Skelly 3, 4.
Unallotted, Tibbens O. & G. 8, 9, 10.
Winter, T. S. Coryell et al 1.
Taylor, Douglas Oil 1.
Clark, Wolverine Oil 6.
Adams, Plymouth Pet. 5.
Snyder, Cumberland Oil 2, 3.
Snyder, The Texas Co. 2, 3.
Bruner, Skelly Oil 4.
Kimble, Harman et al 4.
Long, Pulaski Oil 1.
Long, Shafer O. & R. 1.
Unallotted, Shaffer O. & R. 1.
Robbins, Billingslea & Carter 1.
Lemons, Tibbens O. & G. 1.
Jones, Billingslea 3.
Abraham, Peter Oil 2.
Greenwood, Tom Kelly et al 1.
McHenry, Darby Oil 1.
Johnson, Hall & Donnelly 3.
Harjo, Southwestern Oil 1.
Arparka, Phillips Pet. 1.
Kimble & Reading, Wilcox O. & G. 5, 7, 8, 9.
Stuart, C. P. Noble 3.
Scott, Kistler et al 3.
Drake, Burke Greis 4.
Vassar "B", The Prairie O. & G. 1.
Kernal, Prairie O. & G. 7.
Bearhead, Prairie O. & G. 2.
Hatcher "A," Prairie O. & G. 1, 2.
Hammer, Prairie O. & G. 9.
Lewis, Gowland et al 1.

Shut Down

Starr, Silurian Oil 22.
Grayson, Waite Phillips 3.
Yarhola, Olean Pet. 2.
Washington, Olean Pet. 2.
Hawkins, Cities Land & Loan et al 1.
Stewart, Crosby et al 1.
Bergman, Gypsy Oil 3.
Murril, Midwest & Gulf 1.
Frew, Cross et al 1.
Manley, Bu-Vi-Bar 1.
McIntosh, A. Shelton 1-A.
Unallotted, Roland Oil 1.
Froe, Hartman & Williams 1.
Wisener, Phillips Pet. 4.
Roger, The Texas Co. 1.
Lucus, C. G. Tibbens 3.
Harmon, F. O. Howarth 1.

Rigs, 34; wells drilling, 118; total, 152.

PAWNEE COUNTY

Rigs

Zoldoskie, Amerada Pet. 2.
Smith, Thompson & Reid 1.
School land, Magnolia Pet. 5.
Ackerman, E. B. Kirk et al 1.
Ellis, The Texas Co. 3.

Wells Drilling

Donahue, Magnolia Pet. 1.
Whitewater, Magnolia Pet. 1.
Robodeaux, Magnolia Pet. 1, 4, 5.
Brown, Watchorn Oil 1.
Miller, Watchorn Oil 7, 8, 10, 12.
Miller, Marland Oil 2, 4.
Miller, Magnolia Pet. 6, 7.
Ely, Magnolia Pet. 3.
Sanders, Magnolia Pet. 3, 4.
Miller, Watchorn Oil 2, 6.
Atwater, Magnolia Pet. 1, 2, 4.
Diamond, Magnolia Pet. 1.
Barnes, Magnolia Pet. 1.
Whitemuh, Magnolia Pet. 1.
Childs, Magnolia Pet. 1.
Droin, Watchorn Oil 1.
Bengree, Phillips Pet. 1.
Corrian, Tidal Oil 1.
Zoldoskie, Zoldoskie & Carter Oil 2.
Zoldoskie, Zoldoskie & Carter Oil 5.
Zoldoskie, Amerada Pet. 1.
Weeks, Cosden Oil 1.
Brian, Sinclair Oil 1.
McCullough, Mid-Kansas Oil 1.
Phillips, Haley, Garber & Pulse 3.
Powell, A. D. Krow et al 1.
Box, Bement Oil 1.
Feaster, Magnolia Pet. 1.
Towner, J. B. White et al 1.
Tracy, New England Oil 1.
Hill, T. B. Slick 1.
Hill, C. J. Wrightsman et al 1.
Wright, Fisher Oil 1-A.
Sigon, Adamson Oil 4.
Gowling, Magnolia Pet. 3.
Rimmer, Elmer Oil 4.
School land, Magnolia Pet. 2, 4.
Bergman, Jim Glenn Oil 2.
Lesher, Dempsey et al 2.
Lesher, Magnolia Pet. 7.
Freeman, Josey Oil 2.
Smith, Westerly Oil 6.
White, Davis Drlg. 1.
Eads, Johnson O. & R. 1.
Rule, Noble Oil 2.
Rule, Superior Oil 1.
Canfield, Sun Ray Oil 4.
Orr, Steen et al 1-A.
Aten, Adamson Oil 1-A.
Head, J. H. Markham 1.
Stoneman, Holmes & Shaffer O. & R. 2.
Walker, Prairie O. & G. 1, 4.
Berg, Prairie O. & G. 1.
Ham, Prairie O. & G. 2.

Wells Shut Down

Diamond, Magnolia Pet. 1.
Miller, Watchorn Oil 1.
Lamb, Black Gold Oil 1.
Zoldoskie, Donahoe & Carter Oil 3.
Choteau, Comar Oil 1.
Choteau, Gypsy Oil 1, 2.
Beck, Haley, Garber & Pulse 1.
Bell, Victor Oil 1.
Havercamp, J. B. Greaves 1-A.
Elwell, G. E. Burgher 1.
Bergman, Jim Glenn Oil 4.
Townsite, Vick Oil 4.

Rigs, 5; wells drilling, 80; total, 85.

KAY COUNTY

Rigs

Day, The Texas Co. 1.
Harvell, Comar Oil 3.
Diehle, Vernon Oil 1.
Bailey, Ostot Dev. 1.
Higgins, Anolu Oil 1.
Boggs, Tidal Oil 1.
Hubbard, Marland Oil 3.
McCullough, Marland Oil 3.
Decou, McMann et al 1.
Siler, Twin State Oil 3.
Ogg, Comar Oil 3-W.
Endicott, Comar Oil 4-W, 9-W.
Jones, Prairie O. & G. 3.

Wells Drilling

Smith "A," Prairie O. & G. 2, 3, 4, 5.
Smith "B," Prairie O. & G. 5.
Boyce "A," Prairie O. & G. 1.
Duncan, Comar Oil 4.
Priboth, Comar Oil 3, 4.
Harvell, Comar Oil 1-A, 4.
Murphy, Comar Oil 1.
Shimp, Ona Oil & Carter 1.
Townsite, Colcord et al 1.
Tannary, Grand Island Oil 1.
Kelly, Harold Pet. & Ark. Nat. Gas 1.
Cumier, Blackwell O. & G. 2, 3.
Humphries, Blackwell O. & G. 5.
Johnson, Una Lee Oil 1.
Chambers, O'Kansas 1.
Harris, Soullgny et al 1.
Fitzgerald, Marland Oil 2, 3, 4.
Hockstetter, Marland Oil 2.
Richmond, Mutual Oil 1.
Vannatta, Day Oil 1.
North, Marland Oil 3, 4, 6.
Hubbard, Marland Oil 4.
School land, Magnolia Pet. 1.
Glasgow, National Union Oil 1.
Kaney, Blackwell O. & G. 1.
Nelson, Marland Oil 1.
Wolfe, Carter Oil 1.
Thomas, Marland Oil 2.
Siler, Twin State Oil 2.
Davis, The Texas Co. 5, 8, 9.
Suiter, T. B. Slick 1.
Siler, Louis Freidman 1.
School land, Cosden & Marland 3-A.
Beverlin, Comar Oil 12-W, 20-W, 21-W, 22-W, 23-W.
Ogg, Comar Oil 1-W.
Endicott, T. B. Slick 4-E.
Unknown, Cortez Oil 1.
Unknown, Douglas Oil 1.

Wells Shut Down

Sheets, Hickman & Barnhart 1.
Branine, McComas & Jarvis 1.
Priboth, Comar Oil 2.
Lowery, Okla. Northern Oil 1.
Jewell, National Union Oil 2.
Crews, Crews Heirs & R. Corp. 1.
Kreger, Clair Smith 1.
Thomas, Marland Oil 1.
McFarland, Marland Oil 2.
Turk, Marland Oil 1.
Thomas, Wentz Oil 1.
Turk, Carter Oil 2.
Simmons, W. E. Brown Oil 1.
Suiter, McMann Oil 5.
Pool, Bailey & Thornton 1.
Endicott, Pennok Oil 6-D.
Ogg, Comar Oil 4-W, 6-W, 7-W.
Endicott, Comar Oil 3-W.
Davis, Marland & Embry 1.

Rigs, 14; wells drilling, 75; total, 89.

PAYNE-LINCOLN COUNTIES

Rigs

Catt, Colorado O. & G. 1.
Strawn, Mulberry Oil 3.
Meswat, Independent O. & G. 1.
Oleson, The Texas Co. 2.
Sukovaty, Magnolia Pet. 2.
Bagwell, Selby & Southwestern Pet. 2.
Townsite, Davenport O. & G. 1.
Townsite, Union Pet. & Supply 6.
Townsite, Square Deal Oil 1.

Wells Drilling

School land, Waite Phillips & Gypsy Oil 1.
Lewis, Ponca O. & G. 1.
Jackson, Amerada Pet. 1.
Pleasants, Olean Pet. 1.
Weekes, Magnolia Pet. 1-A.
Garr, Garr Oil 4.
Goodno, Deep Rock O. & G. 1.
Broyles, New England Oil 1.
Payne, Mulberry Oil 1.
Laughlin, Home Gas Co. 4.
Laughlin, Josey Oil 2-A, 4.
Bussee, Josey Oil 2.
Laughlin, Shaffer O. & R. 12, 13, 14, 15.
Driggs, Willis O. & G. 2.
Sutton, Roy Willis et al 1.
Tibbett, J. V. Bailey 1.
Flint, Mulberry Oil 1.
Payne, Magnolia Pet. 1.
Hughes, O'Herin & Hughes 1.
Hohnson, Hiram C. Wilson 1.
Harris, F. O. Howarth 1.
Gardner, Okla. Nat. Gas 1.
Cull, Ruby et al 1.
Maness, Magnolia Pet. 1.
Swartz, Magnolia Pet. 1, 2, 3.
Sproleder, Magnolia Pet. 1.
Sproleder, M. F. Magnolia Pet. 1.
Ingram, Sinclair Oil 1.
Pinkston, Pure Oil 1.
Ford, Skelly Oil 1.
Bowers, Cosden Oil 1.
Fequay, J. C. Cook 1.
Bigwater, Twin State Oil 1.
Sukovaty, Magnolia Pet. 1.
Belless, Amerada Pet. 1.
Sproleder, Magnolia Pet. 1.
Sukovaty, Magnolia Pet. 2, 3.
Kalla, Magnolia Pet. 1.
Townsite, Dowell et al 2.
Delasier, Wilcox O. & G. 2.
Oney, Amerada Pet. 1.
Dodrill, Eugene Costa et al 1.
Smith, Wilcox O. & G. 1.
Richardson, J. C. Cook 1.
Stout, Prairie O. & G. 2, 3, 4, 5, 6.

Shut Down

Young, Roy Willis et al 1.
School, Flynn, Morgan & Bailey 1.
Strong, Grimes et al 1.
Hobson, Wilcox & Oswalt 1.
Briggs, Day Oil 1.
Powell, Santrock Drlg. 1.
Hubbard, Johndahl Oil 1.
Schubie, Union Pet. & Supply & Waite Phillips 1.
Townsite, Union Pet. & Supply 8.
Townsite, Atlas Drlg 1.
Ewing, Douglass Oil 1.
Heinzig, P. & R. Corp. 1.

Rigs, 9; wells drilling, 68; total, 77.

NOBLE COUNTY

Rigs

Burnside, Jankowsky et al 1.
Burk, Elane Oil 1.
Treman, Red Bank Oil 1.

Wells Drilling

Shawver, Gypsy Oil 92.
Blubaugh "C", Comar Oil 3-W, 4-W, 13-W, 17-W, 24-W, 25-W.
Gaume, Comar Oil 8-W.
Pettit, Comar Oil 2-W, 5-W, 17W.
Ruzek, Comar 3-W.
Warrior, Gypsy Oil 1.
Edmonds, Ossenbeck et al 1.
White, Frank Kelly et al 1.
Wentz (Fee), Wentz Oil Corp. 1.
Haufman, Bu-Vi-Bar 1.
Theile, Belt Pet. 1.
Hall, Nelson & Hardin 1.

Shut Down

Kurby, Wilkins & Kors 1.
Blubaugh "A", Comar Oil 13-W.
Gaume, Comar Oil 4-W, 15-W.
Pettit, Comar Oil 19-W.
Ruzek, Blackwell O. & G. 4-D.
Crober, John Herron 1.
Birch, Champlin Refg. 1.
Rao, Ossenbeck et al 1.
Washburn, Mid Co. Pet. 13.
Sawyer, Ossenbeck & McMann 1.

Rigs, 3; wells drilling, 30; total, 33.

GARFIELD COUNTY

Meyers, Sinclair Oil 1.
Nelson, Ostot et al 1.
Mullens, Magnolia Pet. 2.
School land, Cosden & Marland 37, 41.
Denker, Sinclair Oil 25.
Walker, Sinclair Oil 2.
Belveal, Healdton O. & G. 28, 29, 30.
Belveal, Sinclair Oil 21, 26.
Dively, Carter Oil 52.
Peters, Hopper et al 1.
Heim, Rabbitt Foot Oil 10.
Schroeder, Roxana Pet. 1-W.
Hartley, Sinclair Oil 17.
Schroder, Roxana Pet. 4.
Crews, Crews Heirs Oil 18.
Kisner, Sinclair Oil 19, 20.
Crews, Crews Heirs Oil 8.
Whindler, Sinclair Oil 8.
Chews, L., Sinclair Oil 11.
Fee, Beople et al 1.

Wells Drilling

Garterrs, Failing & Lawson 1.
Walker, Sinclair Oil 18.
Belveal, Sinclair Oil 6.
Hotson, Empire G. & F. Co. 16.
Hoy, Sinclair Oil 20.
Heim, Imo Oil 10.
Schroeder, Roxana Pet. 25.
Whitney, Sinclair Oil 6, 7.
Schroeder, Roxana Pet. 15.
Crews, Crews Heirs Oil 10.
Kisner, Sinclair Oil 18.
Burns, Sinclair Oil 1, 2.
Campbell, Sinclair Oil 18.
McLean, Imo Oil 2.
Vanderwork, E. A. Summers 1.
Semrad, O. D. Owens 1.
Rhodes, William King 1.

Shut Down

Dyche, Jack Reid et al 1.
Cox, Katherine Oil Synd. 1.
Hess, Weir & Wood 1.
Swinery, J. H. Pringle et al 1.
Heim, Imo Oil 8.
Montgomery, Frank Frantz 1.
Schriver, Beople et al 1.
Ray, Summers & Atlantic O. P. 1.
Faramel, Summers et al 1.

Rigs, 26; wells drilling, 28; total, 54.

STEPHENS AND COTTON COUNTIES

Rigs

Unknown, Rogers et al 1.
Brooks, Magnolia Pet. 2
Hines, Ka Wye Drlg. 1.
Coffelt, Magnolia Pet. 1.
Brown, Clark & Cowden 1.
Story, Fisher G. & F. 2.

Wells Drilling

Garza, Knox Pet. 1.
Isherwood, Knox Pet. 1-A.
Truitt, Rogers et al 1.
Roy, A. B. Cook 1.
Thomas, Celine Oil 6-B.
Hines, Ka Wye Pet. & Roxana Pet. 1.
Brown, Ka Wye Oil 2.
Brown, Ka Wye Eagle Creek Oil 4.
Ketchum, Magnolia Pet. 1.
Hardin, Carter Oil 6.
Brymer, Smith-Law Oil 2.
McLaughlin, R. P. Kilgore 1.
Payne, Magnolia Pet. 3.
Dolen, Lone Star Gas 1.
Bridenthal, Magnolia Pet. 1-A.
Dolen, Lone Star Gas 1.
Worrel, Magnolia Pet. 4.
Bridenthal, Ellis Drlg. Co. 5.
Phillips, Day Oil 1.
Hall, Huff et al 7.
Weaver, Magnolia Pet. 1.
Smith, Powell & Briscoe 1-A.
Shelton, Crump & Beard 4, 1-A.
School Land, Magnolia Pet. 18.
Hanson, Fisher & Brannon 1.
Womack, Magnolia Pet. 1.
Fowley, David Malernee 1.
Malernee, Malernee et al 1.
Montgomery, Magnolia Pet. 1.
Woodward, Magnolia Pet. 1.
Bristowe, Clark & Cowden 2, 3.
Bristowe, Winkler, et al 1-A.
Brown, Magnolia Pet. 1.
Harris, Magnolia Pet. 1.
Martin, Magnolia Pet. 2.

9-3s-5w Price, Lone Star Gas 2.
12-2n-5w Prince, Knox Pet. 1.
Shut Down
31-1n-8w Brymer, Smith-Law Oil 3.
23-1n-4w Edwards, Russell, Grimes & Atlantic 1.
23-1s-10w Bondurant, A. A. Peard 4.
4-1s-7w Fee, Ballard & Shoptaw 1.
5-3s-4w Smith, Ed Gault 1.
13-2s-8w McMasters, Anderson & Schoolmaker 1.
36-4s-11w Wilson, Foutz, Rust et al 1-A.
27-1s-8w Wilkinson, Pearce & Brown 3.
Rigs, 6; wells drilling, 47; total, 53.

PONTOTOC COUNTY
Rigs
"None"
Wells Drilling
25-5n-6e Patterson, Gillett & Kruger 1.
34-5n-6e Roy, Boles & Smith 1.
26-5n-8e Harjo, Dixie Oil 1.
33-5n-8e Shields, Homaokla 1.
4-4n-5e Hatcher, Highland Oil 1.
3-4n-6e McDaniel, American O. & R. 1.
9-4n-6e Burthrop, American O. & R. 1.
18-4n-6e McClure, Bryan & Gillett 1.
31-4n-6e Harden, T. P. C. & O. Co. 1.
34-4n-6e Norris, Smith & Lancaster 1.
14-4n-7e Norris & Beck, Howarth O. & G. 1.
6-3n-7e Lloyd, Lloyd & Smith 2.
Shut Down
31-5n-5e Lewis, La Salle et al 1.
5-4n-5e Starritt, Craig et al 1.
17-4n-6e Witherspoon, American O. & R. 2.
27-4n-6e Parry, Pilgrim Pet. 1.
28-4n-7e Faulkner, Hughes et al 1.
15-3n-6e Hays, Galloway et al 1.
Wells drilling, 18.

CARTER COUNTY
Rigs
32-1s-3w Johnson, Magnolia Pet. 1, 4.
26-2s-3w McCowan, Wirt Franklin 2.
23-2s-3w Williams, Magnolia Pet. 6.
24-2s-3w Smith, Magnolia Pet. 6.
25-2s-3w Brooks, Franklin-Carter Oil 2-A.
5-3s-2w Williams, Merrick-Kirk 2.
8-3s-2w McGill, Schermerhorn 3.
9-4s-2w Lowery, Merrick-Coe 4.
28-5s-1e Fish, Amerada Pet. 6.
Wells Drilling
18-1s-3w Hardin, Magnolia Pet. 1-E.
19-1s-3w Watson, Magnolia Pet. 1.
Dixon, Humble O. & R. 1.
Jordan, Humble O. & R. 1.
22-1s-3w Brady, Humble O. & R. 1.
27-1s-3w Ashin, Simson & Fell 1.
Loftis, Levant Oil 2.
28-1s-3w Champion, Noble & Gault 2.
Miller, Humble O. & R. 1.
32-1s-3w Johnson, Westheimer 1.
33-1s-3w Tate, Humble O. & R. 1.
Lusk, Humble O. & R. 3.
34-1s-3w Parnell, Noble-Olson 1.
12-2s-3w Pierce, Coline Oil 6.
15-2s-3w Howard, Magnolia 1.
22-2s-3w Carpenter, Humble O. & R. 3.
Carpenter, Wirt Franklin 3.
23-2s-3w Lohman, Magnolia Pet. 9.
Davis, Twin State Oil 5.
Williams, Fitzgerald 3.
Smith-Davis, C. R. Smith 3.
24-2s-3w Voorhees, Cameron Refg. 3.
25-2s-3w Nelson, Magnolia Pet. 6.
Stanton, Atlantic O. P. 2.
27-2s-3w Heiner, Magnolia Pet. 11.
33-2s-3w Lindersmith, Gypsy Oil 8.
34-2s-3w Brooks, Rockland Oil 11.
Davis, Empire G. & F. 13.
30-2s-2w Sparks, Schermerhorn-Young 9.
Ellis, Cotton Belt Oil 6.
31-2s-2w Palmer, Patsey Kirk Oil 5-A.
Bennett, Sprague Oil 5.
32-2s-2w Palmer, Schermerhorn & Kirk 7.
5-3s-2w Fox, Cameron Reig. 1.
8-3s-2w Mullen, Coline Oil 2.
Ledbetter, Coline Oil 1.
McGill, Schermerhorn 2.
Moyer, Merrick Cameron Refg. 2.
9-4s-2w Lowery, Merrick-Coe 3.
Hewitt-Walker, Humble O. & R. 15.
10-4s-2w Walker, Simpson & Fell 3.
13-5s-3w Beal, Wickenhiser 1.
5-5s-2w Lewis, Coline Oil 1.
20-5s-1e Criner, Amerada Pet. 4.
28-5s-1e Clay, Amerada Pet. 11.
Fish, Amerada Pet. 5.
Westheimer, Amerada Pet. 6.
Fee, Westheimer 3.
34-5s-1e Wolverton, Amerada Pet. 1.
Shut Down
19-1s-2w Movis, McGee 1.
22-2s-3w Lohman, Wirt Franklin 2.
27-2s-3w Fee, C. R. Smith 5.
8-3s-2w Harrison, Noble Oil 1.
27-3s-2e Brown, Home Oil 1.
22-4s-2w Okla-Dillar, Humble O. & R. 8.
Dillard, Humble O. & R. 9.
16-4s-1e Bishop, Feimlee et al 1.
Rigs, 10; wells drilling, 57; total, 67.

MISCELLANEOUS COUNTIES
Rigs
WOODWARD COUNTY
4-23n-17w Nordyke, Diamond Drig Co. 1.
KINGFISHER COUNTY
7-19-5w James, Jens Marie et al 1.
LOGAN COUNTY
35-17-4w Field, McMunn & Nixon 1.
POTTAWATOMIE COUNTY
3-11-6e Allenbaugh, The Texas Co. 1.
28-10-4e Toney, Central National Oil 1.
15-7n-4e Standridge, Darby Pet. 1.
GARVIN COUNTY
11-1n-3w Harkreader, Tulsa Oil 4.
17-1n-3w Derdeyn, The Texas Co. 7.
21-1n-3w Bailey, T. P. C. & Co. 1.
GRADY COUNTY
31-10-8w Unknown, Hawkins & Young 1.
22-5n-8w Sanford, Okla Nat'l Gas 2.
25-5n-8w Reed, Nicholas Drig. 2.
15-5n-7w Sturdivant, Sultan et al 1.
11-4n-8w Rockhold, Magnolia Pet. 2, 1.
JEFFERSON COUNTY
33-6s-5w Seay, Humble-Hambro Oil 3.
LOVE COUNTY
12-9s-1e Gray, Smyer & Stein 1.
MAYES COUNTY
27-19-18e Parlor, Swingie 1.
Wells Drilling and Shut Down
(Shut down wells indicated by *)
ALFALFA COUNTY
21-27-10w Watts, McGinnis & Ward 1*.
23-24-11w Turnbull, Armstrong, Henley & Pettley 1*.
GRANT COUNTY
8-27-8w Moon, Midwest & Gulf 1*.
30-27-4w Fuss, Frank Traves et al 1*.
2-27-3w Webb, Marland Oil 1.
14-27-3w Elswick, Kay Oil 1.
Howell, Western States Gas 1*.
22-27-3w Stewart, Western States Gas 4-A*.
Lane, Blackwell O. & G. 2-A*.
23-27-3w Crouch, Blackwell O. & G. 1.
27-27-3w Lane, Western States Gas 1*.
20-26-4w Edwards, Embry & Leright 1*.
WOODS COUNTY
10-25-15w Van Buskirk, Victor Oil 1*.
ELLIS COUNTY
32-24-24w Meehan, Utility O. & G. 1*.
MAJOR COUNTY
36-22-14w Cheyenne Basin, Tex. Prod. Co. 1*.
9-22- 9w Ratcliff, Bradstreet Oil 1.
36-21-11w Gray, Frantz & Slick 1*.
LOGAN COUNTY
32-19-3w Newman, Skelly Oil 1*.
28-18-4w Moore, Franklin Oil Assn. 1.
33-18-3w Quier, Haley & Pioneer Pet. Co. 1*.
9-18-2w Wyatt, Behoma Oil 1*.
28-16-1w Lair, Blackford Oil 1.
23-15-1e Pritchard, Magnolia Pet. 1.
DEWEY COUNTY
7-18-15w Chronister, Myers et al 1*.
22-16-18w Elders, A. D. Morton 1*.
KINGFISHER COUNTY
25-17-5w Sickerson, Carston et al 1.
17-15-6w Creaves, Chi Oil Co. & Nichols 1*.
BLAINE COUNTY
21-15-10w Eklemeir, Okomo Oil 1*.
CANADIAN COUNTY
34-13-9w Dawson, Thos. Revelle 1.
2-13-8w Setter, Carrol & Zwicher 1*.
29-11-7w Sanders, Wilcox et al 1*.
POTTAWATOMIE COUNTY
13-11-3e Floyd, Gwinnup et al 1*.
13-10-2e Howell, Ossie Oil 1*.
28-10-4e Midgett, North American Oil 1.
24-8n-4e Stoner, Maude Oil Products 1*.
19-7n-4e Neghan, McMann 1*.
18-7n-5e Yinson, Maude Oil Products 1*.
Rowe, Magnolia 1.
10-6n-2e McCahey, Davis Detrick 1*.
4-5n-5e Fiddler, Halmond Osmond et al 1*.
CLEVELAND COUNTY
31-10-4w Holland, Garr Oil 1*.
GARVIN COUNTY
21-4n-1w Florence, Bedman et al 1*.
19-3n-4w Ball, Magnolia Pet. 1.
10-3n-3e Hattle, Heath & Bauman 1*.
13-2n-3e Dellbeck, Goldenline Oil 1.
14-2n-3e Newberry, Magnolia Pet. 3.
11-1n-3w Concord, Harkreader 9.
16-1n-3w Harris, Magnolia 6.
17-1n-3w Cosden-Deryden, T. P. C. & O. Co. 2, 4.
Deryden, H., T. P. C. & O. Co. 2. 4.
Deryden, Carter Oil 2.
Deryden, Rope & Wilson 1.
Deryden H., The Texas Co. 6, 7.
18-1n-3w Deryden, Simms Oil 1*.
18-1n-1e Richardson, Bendern et al 1*.
ROGER MILLS COUNTY
15-15-26w McClure, Twin Hills Oil 1*.
3-13-26w Unknown, Trio Oil 1*.
BECKHAM COUNTY
24-9n-25w Unknown, W. H. Sheldon 1*.
35-9n-25w Brown, Steve Nelson 1.
6-9n-24w Burkholder, J. A. Pringle 1*.
CADDO COUNTY
8-8n-11w Foster, Crane & Smith 1.
29-6n-12w Galbreath, W. J. Hartley et al 1.
KIOWA COUNTY
13-7n-16w Unknown, Alcorn Oil 1.
20-7n-16w Williams, Conner et al 1*.
GRADY COUNTY
23-5n-8w Edmondson, Skelly Oil 1.
25-5n-8w Hill, Magnolia Pet. 2.
35-5n-8w Duke, Stogner et al 1.
McCaughtry, Noble & Westerfelt 3.
15-5n-7w Jelks, Sultan et al 1.
22-5n-7w Jelks, Sultan et al 1.
16-4n-6w Bryant, Roy Nash et al 1*.
26-4n-6w Pursley, Nash et al 1.
16-3n-5w Walford, Joe Ray et al 1.
35-3n-5w Lindsey, Knox Pet. 2.
JACKSON COUNTY
26-2n-23w Unknown, J. D. Wade 1.
15-1s-23w Snodgrass, J. R. Abernathy 1*.
COMANCHE COUNTY
24-2n-10w Cox, Cherry & Couch 1*.
30-2n- 9w Munson, Geo. Hanbury 1.
29-1n-12w Bentley, Bentley et al 1*.
TILLMAN COUNTY
11-1n-17w Unknown, H. S. & H. Oil 1*.
JEFFERSON COUNTY
21-5s-6w Cowden, Tarkington & Kelsey 1*.
34-5s-6w Major, Barker et al 1*.
36-5s-4w Woodwarth, Godley Oil 1.
4-6s-5w Brown, Ely et al 1*.
11-6s-5w Rose, Riverside Oil 1.
18-6s-5w Grayson, Seaboard Oil 1.
31-6s-5w Seay, Cameron & Anderson 1*.
3-7s-5w Seay, Gypsy Oil 3.
18-7s-5w Busby, Humble O. & R. 1.
ATOKA COUNTY
1-2s- 9e Fee, J. P. Torrence 1*.
7-2s 9e Wild, McPherson 1*.
28-2s-9e Underwood, Wapanucka Dev. 1*.
17-4s-11e Dabney, Hanson et al 1*.
LOVE COUNTY
29-6s-3e Starritt, Simms Oil 1*.
11-7s-2e Wilson, Driller Synd. Oil 1*.
13-8s-2e Crowe, Magnolia Pet. 1.
BRYAN COUNTY
26-7s-11e Hampton, Alexander 1*.
LATIMER COUNTY
7-5n-18e Hunt, P. & F. Pet. 1.
10-6n-21e Young, J. S. Cochran 1*.
PITTSBURG COUNTY
29-6n-13e Townsend, E. T. Richards 1*.
HASKELL COUNTY
27-9n-18e Curry, J. D. Clark 1*.
LE FLORE COUNTY
13-9n-24e Straun, Rogers Dev. 1.
Rigs, 18; wells drilling, 105; total, 123.

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Allen	8	50	2	4
Anderson	43	2,158	2	1
Butler	4	65	3	0
Chautauqua and Elk	33	1,010	16	6
Cowley	27	3,251	10	1
Greenwood	83	10,213	17	0
Montgomery	28	1,200	14	3
Russell	4	750	1	0
Miscellaneous	29	163	19	3
Total April	259	18,860	84	18
Total March	107	11,094	39	3
Difference	152	7,766	45	15

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Butler	6	30	36
Chautauqua and Elk	7	24	31
Cowley	17	106	123
Greenwood	56	89	145
Lyon	1	6	7
Montgomery	0	28	28
Russell	8	14	22
Sedgwick	1	8	9
Sumner	0	20	20
Wilson	0	9	9
Woodson	0	8	8
Miscellaneous	10	86	96
Total April	106	428	534
Total March	116	437	553
Difference	10	9	19

ALLEN COUNTY
10-21-24 Haynes, Gaithkill, Leonard & McMillion 13 30
21-24-21 Linant, J. C Ramsey 1 ..... dry
10-24-21 Yaynes, Gaithkill, Leonard & McMillion 14 20
22-26-18 Deitrich, Wenkler Oil 31 .... gas
11-26-18 Ingle, Kruger et al 1. ..... gas
11-26-18 Ingle, Krueger et al 2. ..... gas
28-26-18 Hallenberg, Krueger et al 1 ... gas
6-25-20 Brown, Cramer Oil 8 ..... dry
Wells completed 8
Production 50
Dry 2
Gas 4
Gas production 160,000

ANDERSON COUNTY
9-22-19 Strain, Strain Oil 15. 5
4-22-19 Fee, Radio Oil 3. 60
34-21-19 Melville, J. T. Graham 9 60
16-22-19 Bibens, Hord & Harlan 1 50
34-21-19 Melville, J. T. Graham 8 60
2-22-19 Buchanan, Vanhorn-Richard 6 6
4-22-19 Fee, Radio Oil 4 45
Fee, Radio Oil 5 45
17-21-20 Wilson, Hafel & Templeton Bros 3 15
2-21-19 Nichols, Gooch Denton Pet. 3. 90
7-21-20 Johnson, W. S. Lees 2. 40
14-21-20 Carr, Albert H. Keys 2. 70
13-21-19 Johnson, T. W. Reed 3 15
16-21-20 Pugsley, Percy R. Payne Jr. 4. 55
1-21-19 Smercher, Gornett Sysdicate 7. 15
7-21-20 Melcher, T. W. Redd et al 5 .. 100
8-21-20 Wilson, Edward Henniger 3 ... 70
Starritt, Southwestern Pet. 2.. 15
18-21-21 Mulkey, J. P. Bradley 4. 40
14-21-20 Farlow, J. P. Brady, et al 4.. 107
13-21-19 Porter, Albert H. Keys 2 30
13-21-19 Whitestone, Albert H. Keys 2 30
14-21-19 Iler, Hafel. & Templeton 1 30
8-21-20 Starritt, Southwestern Pet. 4. 15
Starritt, Southwestern Pet. 5 . 75
16-21-20 Pugsley, Percy R. Pyne Jr. 5.. 45
16-21-20 Pugsley, Percy R. Pyne Jr 6 dry
14-21-20 Farlow, J. P. Brady et al 5... 120
8-21-20 Starritt, Southwestern Pet. 3.. 15
13-21-19 Whitestone, Albert H. Keys 3.. 20
14-21-19 Carr, Albert H. Keys 2..... 70
Carr, Albert H. Keys 3 45
2-21-19 Nichols, Gooch Denton Pet. 4 110
8-21-20 Melcher, T. W. Redd et al 1... 40
18-21-20 Crozier, Peerless Oil of Kan.. 2 150
8-21-20 Melcher, Reid & Mills 4 120
7-21-20 Johnson, G. D. Whiteside 3... 90
15-21-20 Ware, Pioneer Mutual 7 20
27-21-19 Marshall, D. W. Polkinghorn et al 9 ..... dry
9-22-19 Strain, Strain Oil 13 50
4-22-19 Fee Radio Oil 2 70
9-22-19 Strain, Strain Oil 14 50
2-22-19 Buchanan, Van Horn & Reichart 5 ..... gas
Wells completed 43
Production 2158
Dry 2
Gas 1
Gas production 2000

BUTLER COUNTY
7-26-5e Higgins, Allen et al 2 ..... dry
12-27-7e Barnhill, Brice & Babcock 1... dry
5-27-6e Maclean, Blue Stem Oil 3 65
12-29-6e Lemonyon, Tobin et al 1..... dry
Wells completed 4
Production 65
Dry 3

CHAUTAUQUA-ELK COUNTIES
4-34-13 Carra, Victor Martin 1 ..... gas
30-30-10 Pickell, Pennok Oil 2 50
7-31-11 Knable, R. G. Gillespie 1 .... gas
2-30-9e Mullendore, Barnes Drlg. Co. 1 50
30-30-11 Pickell, Pennok Oil 4 50
11-31-9e Sellers, Home O. & G. 1 ..... gas
24-28-11 Holliday, Jones et al 1 ..... dry
15-31-10 Ames, Craft et al 1..... dry
16-32-13 Hoover, Glidden Oil 1 ..... dry
3-35-8e Dale, Buck-Schuler & Winters 1 ..... dry
30-30-10 Pickell, Pennok Oil 3 ..... dry
30-30-13 Sharp, Curtis et al 1 ..... dry
33-30-13 Bailey, Shaffer O & R 1 ..... dry
5-31-11 Osborne, Crawford & Reagan 1 ..... dry
33-31-12 Hughes, Southwestern Gas 1 .. dry
11-33-10 Chamberlain, Fisher Oil 1.... dry
2-33-11 Johnson, Noble O. & G. 1 .... dry
10-34-9e Fisher, T. B. Slick 2 30
10-35-12 Jennon, Mackrox O & G 2... dry
25-33-11 O'Neil Ranch, Rigdon & Bruen 131 50
22-33-11 Gregg, Prairie O. & G. 76.... gas
8-34-10 Jarboe, Denman Bros 1..... dry
33-32-10 Wiggins & Chaffin, Watchorn Oil 1 ..... dry
2-34-10 Metcalf, O. W. Compton 11.. 5
28-32-10 Wiggins & Chaffin, John Croft et al 1 300
36-33-10 Denman Bros., Roth & Faurot 22 ..... dry
25-33-11 O'Neil Ranch, Rigdon & Bruen 152 25
16-32-13 Hoover, Glidden Oil 1 25
33-20-12 Hastings, Hope Oil 2 ..... gas
11-33-10 Chamberlain, Fisher Oil 1 .... dry
8-34-10 Wilson, Denman Bros. 14 20
31-33-12 O'Neil, Bruen-Rigdon & Bruen 8 5
O'Neil, Bruen-Ridgon & Bruen 19 ..... gas
Wells completed 33
Production 1010
Dry 16
Gas 6
Gas production 17,600,000

COWLEY COUNTY
9-33-3e Graham, Marland Oil 2 153
Graham, Marland Oil 4 50
30-31-5e Coffey, C. E. Roth 1 ..... gas
10-33-3e Wright, Marland Oil 2 200
19-32-3e Carson, T. B. Slick 1-B 250
19-32-4e Newman, J. A. Hull et al 1 260
24-32-4e Shannon, Gypsy Oil 7 70
9-33-3e Graham, Marland Oil 3 550
10-33-3e Spruen, Roxana Pet 2 65
Spruen, Roxana Pet. 3 850
11-31-3e Clark, Arkansas Fuel Oil 1 .. dry
35-31-4e McKnab, I. T. I. O. Co. 1 .... dry
18-33-3e Patterson Waite Phillips 1 .... dry
3-32-4e McKnab, I. T. I. O. Co. 1 .... dry
25-32-4e Dinger, White Eagle O. & R. 1 dry
34-33-3e Shehan, Marland Oil 1 ..... dry
10-31-3e Shaffer, Trees Oil 3 ..... dry
24-32-4e Shannon, Gypsy Oil 6 20
Lewis, J. A. Hull Co. 1 10
20-33-3e Backus, Waite Phillips & Marland 3 10
Backus, Waite Phillips & Marland 4 10
24-33-6e Sandstrum, Torrance & Torrance 2 5
26-31-5e McKinley, Arkansas Fuel Oil 1 5
30-32-3e Nevitt, Marland Oil 1 ..... dry
13-32-3e Staggers, The Texas Co. 1 .... dry
9-33-3e Graham, Marland Oil 6 10
29-33-3e Henson, Waite Phillips 1 ..... dry
Wells completed 7
Production 221
Dry 1
Gas 1
Gas production 8,500,000

GREENWOOD COUNTY
19-22-10 Browning, R. G. Gillespie 8.... 60
16-23-9e Teeter, Empire G. & F. 14 15
32-23-10 Thrall, Great South. Oil 4..... 10
4-23-13 Inthurm, Skelly Oil 1..... 40
16-24-13 Blackwell, Rhodes & Able 1... 30
19-25-9e Ladd, Mid-Kansas Oil 7..... 150
19-22-10 Browning, Sinclair Oil 11..... 150
7-22-11 Malone & Souder, Davis & Alyard, 2 250
11-22-11 Kipfer, Empire G. & F. 2 250
14-22-11 Duby, Empire G. & F. 2 100
Killison, Empire G. & F. 4 120
22-22-11 Berrie, Henderson, Holden & Milliken 6 150
27-22-11 Wick, Skelly & Tidal Oil 14.... 15
32-22-11 DeMalorie, York State Oil 1-C 10
33-22-11 Hillard, Phillips Pet 4 60
2-23-9e Green, Transcontinental Oil 2. 150
10-23-9e Nolar, Skelly & Emerald Pet 1. 200
15-23-9e Teeter, Skelly Oil 2 250
Teeter, McGinnis & Bittler 3.. 200
16-23-9e Teeter, Empire G. & F. 15.... 125
Teeter, Empire G. & F. 19 650
28-23-10 Thrall, Mission O. & C. E. Roth 45 150
31-23-10 Martindale, Mid-Kansas O. 15.. 200
Martindale, Mid-Kansas Oil 17 50
1-24-9e Cartwright, C E. Roth & Mission 5 60
10-24-12 Meyer, Franklin Oil 1 60
15-23-12 Fleming, Franklin Oil 2 75
Johnson, Skelly Oil 3 25
13-26-9e Life Est., Beacon Oil 1 75
12-22-10 Malone & Souder, Davis, Hazlett et al 2 ..... dry
27-22-11 Wick, Skelly Oil & Tidal Oil 15 ..... dry
6-22-12 Jones, Skelly Oil 1 ..... dry
10-23-9e Noler, Tidal Oil 1 ..... dry
27-24-9e Marshall, Folhamus et al 2 .... dry
28-24-13 Morris, Kettle et al 2 ..... dry
2-23-9e Hartley, Reverly et al 2..... dry
18-23-10 Allen, John Rogers 6 ..... dry
28-24-13 Raglin, Charles Cross 1 ..... dry
14-24-9e Heilman, Prairie O. & G. 10.. 210
20-22-10 Browning, Sinclair Oil 10 250
30-22-10 Prather, C. W. Titus et al 1.... 600
32-22-11 Cargan, Empire G. & F. 1..... 610
O'Neal, York State Oil 6-A.... 450
27-22-13 Norris, Braden Bros. 6 10
2-23-9e Green, Transcontinental Oil 4.. 150
Green, Murphy et al 1 200
10-23-9e Green, Rogers-Bittler et al 2...175
15-23-9e Teeter, Skelly Oil 5 200
Teeter, Skelly Oil 6 125
16-23-9e Teeter, Empire G. & F. 20 300
23-23-10 Allen, Mid-Kansas Oil 20 200
22-23-11e Thrall, Empire G. & F. 3..... 50
31-23-10 Martindale, Mid-Kansas Oil 16. 150
Martindale, Mid-Kansas Oil 18. 175
7-23-11 Edwards, Phillips Pet. 3 25
Ladd, Mid-Kansas Oil 9..... 150
Ladd, Mid-Kansas Oil 9 150
7-22-11 Klassen, Federal Oil & Rogers ..... dry
11-25-12 Gilroy, Gulick & Faurot 1..... dry
13-22-10 Kipfer, Skelly Oil & Ritchey 2. 240
Kipter, Derby Oil & Davis 2 ... 30
Kipfer, Allen et al 2 150
Kipter, Syndicate Oil 3 ..... dry
28-22-11 Clark, Phillips Pet. 8 ..... dry
33-22-11 Green, Jennings et al 5 40
2-23-9e Green, Transcon. Oil 7..... 200
15-23-9e Teeter, Philips Pet 4 150
16-23-9e Noler, Reveley et al 1..... 150
29-23-10 Thrall, Mission Oil & Roth 46. 40
Thrall, Mission Oil & Roth 48.. 40
32-23-10 McKee, Phillips Pet. 7 250
10-23-13 Schneider, Theta Oil 31 ..... dry
11-24-8e Burton, Roth & Faurot 1..... dry
1-24-9e Cartwright, Roth & Mission O 6 100
5-24-9e Christy, Smith et al 1 ..... dry
11-24-9e Olsen, Transcon. Oil 12 150
Olsen, Transcon. Oil 15 70
27-24-9e Nixon, Gypsy Oil 6 30
6-24-10 Cartwright, Federal Oil & Rogers 6 100
15-24-12 Johnson, Peninsula Oil 2 15
Moran, N. F. Clark & Son 2 ... 35
31-24-13 Cornish, Bisango et al 1 ..... dry
2-26-8e Hull, Gt. Southern Oil 23..... 60
Wells completed 61
Production 1021
Dry 17

MONTGOMERY COUNTY
35-32-16 Riddins, Hancock Drlg. Co. 1.. dry
7-33-17 Rogell, Harwood & Haslett 1. dry
5-35-15 Maddersmith, J. C. Canary et al 1 ..... dry
1-35-16 Bigley, Shaffer Refg. et al 3... 125
Bigley, Shafter Refg. et al 4.. dry
12-35-16 Shaw, Tex O Kan Oil 8 100
7-34-17 Lyons, Shaffer Refg. et al 1.. dry
30-34-16 Runyon, Roth et al 1 40
1-35-16 Bigley, Shaffer Refg. et al 5.. 10
Jones, M. O. Benowitz et al 1 10
8-35-17 Miller, M. C. Oil & Gas 1.. gas
5-35-17 Lee, Eugenia O. & G. 2 ..... dry
12-35-16 Shaw, W. P. Brown 1..... 200
28-32-16 Lange, Cross Prod. Co. 1..... dry
12-33-16 Thompson, Homer Lamb 1..... dry
Schieke, Roth & Faurot 1 ..... dry
Good, F. L. Simcox 2 ..... dry
Good, F. L. Simcox 3 100
21-31-15 Jackson, Paul Steinberger 1.. dry
9-33-14 Tucker, Marland Oil 1 ..... dry
24-23-14 Brooks, Steinberger Bros. 1.. dry
23-33-14 Moore, Marland Oil 1 300
12-35-16 Shaw, Tex O Kan Oil 6..... 10
8-34-17-Carl Van Vleck & Graham 4.. 10
1-35-16 Bigley, Shaffer Refg. et al 3.. 10
23-32-14 Cox, Hobson et al 1 ..... gas
32-32-14 McGonigle, Connelly 1 60
15-34-15 Adams, Standard Oil 18 20
Wells completed 1200
Production 1

Dry 14
Gas 3
Gas production 1,600,000

RUSSELL COUNTY

5-12-15w Sutton, Derby et al 1 400
8-12-15w E. Oswald, Valerius Oil 4 250
18-12-15w Oswald, Skelly Oil 1 100
9-14-15w Mermis, P. & R. Co. 1 ..... dry

Wells completed 4
Production 750
Dry 1

MISCELLANEOUS COUNTIES

Bourbon County—
18-24-22 Mason, Ed Paversac 2 ..... gas
12-24-22 Russell, Central Oil 1 ..... dry
15-23-21 Upton, Harris et al 6 ..... gas
17-24-22 Hounens, B. M. Slone et al 3.. dry
Chase County—
1-22-6e Irwin, Phillips Pet. 1 ..... dry
Lincoln County—
11-12-10w Lambert, Berry & Rosenthal 1 dry
Neosho County—
10-27-19 Parker, J. S. Winkler 2 5
18-28-19 Taylor, John Keas 1 ..... dry
5-27-19 Switzer, Fillson & Moore 2 ..... dry
24-29-19 Melville, J. S. Graham 7 65
Wilson County—
2-28-13 Newman, Gwinnup et al 1.... dry
27-30-15 Blair, H. P. Glidden 1..... dry
17-27-16 Canty & White, Thompson Bros 1
12-27-16 Nelson, Bradyhoff & McCullough 1 3
Miami County—
13-18-21 Bartlett, Vessler et al 1 5
25-17-21 McKoon, Southwestern Pet 23 . dry
26-17-21 Gilbert, Southwestern Pet. 27 dry
16-17-21 Gilbert, Southwestern Pet. 27.. dry
Franklin County—
4-18-21 Sodaann, J. A. Vanhorn 3.... dry
Sumner County—
23-34-2e Mierau, Gypsy Oil 1 ..... gas
16-30-1w Hitchcock, Champion Refg. 2. dry
14-34-2e Melick, Marland Refg. 1 ..... dry
Riley County—
19- 9-4e Woodbury, Empire G. & F. 1 .. dry
Woodson County—
18-25-15 Diver, Trees Oil 1 ..... dry
23-25-13 Paske, Davis & Lassen 1 15
14-25-13 Black, Lassen et al 1 30
25-25-13 Paske, McCann & Johnson 1 ... 40
Kingman County—
16-27-7w Richardson, D. P. Fleeger 1 .. dry
Sedgwick County—
29-29-2e Hunsaker, Hartman, Skaer & Johnson 1 ..... dry

Wells completed 29
Production 163
Dry 19
Gas 3
Gas production 40,050,000

BUTLER COUNTY
Rigs

4-23-6e Nelson, T. E. Miller et al 1.
17-24-4e King, The Texas Co. 2.
18-24-4e Kinnen, P. G. Reynolds et al 1
8-24-8e Hawthorne, Nathan et al 1.
31-26-6e Fisher, Callihan & Dingee 1.
5-27-6e Beedles, Branson et al 2.
Wells Drilling
26-23-3e Paulson, Phillips Pet. 1.
31-23-5e Wilson, Phillips Pet. 3.
31-24-3e Harder, Walter Hoyt 1.
34-24-3e Sullivan, Phillips Pet. 1.
17-24-4e King, Connell, Mathews & Ralston 2, 3.
King, Vickers Pet. 1.
King, The Texas Co. 1.
King, Phillips Pet. 1.
12-24-4e Penner, Vickers Pet. 1.
6-24-6e Piatt, Mason & Ralston 1.
32-24-8e Lample, Tom Miller et al 1.
1-25-3e Joseph, Vickers et al 1.
8-25-3e Gale, Roxana Pet 1.
8-25-4e Houston, Ohio Fuel Oil 1.
8-25-5e Wilson, Empire G. & F. 155.
19-25-5e Hazlett, Port Fleeger 8.
10-25-8e Clancy, Hawkins 1.
6-27-7e Lingfelter, Connell et al 1.
22-27-6e Stern, Wentz et al 1.
18-25-8e Guilfoyle, Phillips Pet. 1.
Shut Down
12-24-3e Thomes, Vickers et al 1.
17-24-4e King, Vickers Pet. 2.
18-24-4e Kemper, Marland Refg. 1.
31-24-4e Maxwell, Potwin O. & G. 2.
36-24-4e Barkemeyer, Robinson et al 1.
18-24-5e Joseph, Kightlinger et al 1.
24-27-4e Weidline, Weidline et al 1.
22-25-6e Pettit, John Sharp 1.
30-29-3e Robbins, Walters Pet. 1.
Rigs, 6; wells drilling, 30; total, 36.

CHAUTAUQUA-ELK COUNTIES
Rigs

10-34-9e Fisher, T. B. Slick 3
13-29-8e Hanna, C. E. Roth & Co. 3.
3-30-3e Mullendore, Elk Pet. 1.
Mullendore, Barnes Drlg. Co. 2
10-30-9e Kyser, Elk Pet. et al 10.
18-30-10 Donnell, F. P. Zock et al 1.
26-34-11e Brown, The Prairie O. & G. 9.
Wells Drilling
24-32-10 Floyd & Tucker, Southwestern Gas 1.
33-32-10 Wiggam, The Texas Co. 2.
11-34-9e Holyrod, J. A. Brauk et al 1.
7-35-13 Albright, Noble O. & G. 1.
12-29-8e Porter, C. E. Roth & Co. 9.
32-29-9e Clifton, Ohio Fuel Oil 1.
34-29-9e Denton, Denton Bros. 10.
3-29-12 Weeks, Theta Oil 2.
5-30-9e Denton, Watchorn Oil 4, 6.
16-31-9e Muller, Triplett Oil 1.
21-31-9e Stiles, Triplett Oil 1.
Hand, Anderson et al 2.
12-31-10 Knalbe, R. G. Gillespie 1.
13-31-10 Webb, Pure Oil 1.
Shut Down
133-8e Reed, Hatlock et al 1.
2-33-6e Shaver, Ajax Drlg Co. 1.
5-33-10 Humphrey, Dunn et al 1.
5-33-12 Fish, Garner et al 1.
8-34-10 Wilson, Denman Bros 1.
19-30-9e Packard, Ritchey & Moore 1.
33-30-9e Lawyer, Clark Oil 2.
22-31-8e Ewers, Denman Bros 5.
14-31-10 Webb, Southeastern Gas 3.
Rigs, 7; wells drilling, 24; total, 31.

COWLEY COUNTY
Rigs

16-30-5e Bittler, Patterson & Crosby 1.
1-30-6e Mahana, Ark. Fuel Oil, 1.
10-31-3e Smith, Trees Bros. 2.
11-31-3e Clark, Arkansas Fuel Oil 2.
28-31-4e Emery, Trees Oil 1.
30-31-5e Brant, C. E. Roth 1.
19-32-3e Carson, T. B. Slick 3, "A."
12-32-4e Southwestern College, McKnab et al 1.
7-32-5e Crostley, Arkansas Fuel Oil 5.
29-32-7e Branson, H. W. Hammill, 1.
10-33-3e Wright, Marland Oil 1, 2.
Bower, Marland Oil 3 "A", 6.
Spruen, Roxana Pet. 5.
20-33-3e Johnson, Waite Phillips & Marland 5.
30-33-5e Devore, S. A. Murphy 1.
Wells Drilling
14-30-3e Jacobus, Waite Phillips Co. 1.
14-30-4e Magnunson, Cassoday Oil 6.
15-30-4e Newton, Shawver et al 3.
31-30-6e Crouch, Lewis Oil 6.
Robbins, Lewis Oil 4.
4-30-8e Hanna, C. E. Roth et al 5.
5-30-8e Corbin, T. E. Miller et al 1.
6-30-8e Mahanna, Paul Trees 2.
17-31-5e Elliott, S. H. E. Dev. Co. 1.
29-31-6e Higgenbottom, Terrian & Bellaire 1.
13-31-7e Brown, Empire G. & F. 3.
18-32-3e Albright, Waite Phillips Co. 1.
19-32-3e Waite, "A" Carter Oil 1, 3, 4.
Conrad, T. B. Slick et al 1.
Waite "A" T. B. Slick 1, 2.
Waite "B," T. B. Slick et al 1.
Carson "A," T. B. Slick 2.
13-32-4e Cook, Gypsy Oil 1, 2, 3.
Spengler, Sinclair Oil 2.
Spengler, Southwestern Pet. 1.
Rockwell, Marland & Neely 2, 3.
14-32-4e Tonkinson, J. A. Hull Co. 1.
Griffity, J. A. Hull Co. 1.
23-32-4e Glacken, J. A. Hull & Emerald Oil 1.
24-32-4e Kukuk, J. A. Hull Co. 9.
26-32-4e Newton, J. A. Hull Co. 1.
34-32-4e Poor Farm, W. M. McKnab 1.
7-32-5e Crostley, Arkansas Fuel Oil 3, 4.
23-32-5e Barlow, McIntyre & Foster 1.
25-32-5e Jarvis, Shawver et al 1.
12-32-6e Estus, Trees Oil & Richardson 1.
3-33-3e Orr, Marland Oil 1.
9-33-3e Johnson, Waite Phillips 2, 3.
Spruen, Roxana Pet. 1, 2.
Graham, Marland Oil 5.
10-33-3e Wright, Marland Oil 1, 3, 4, 5.
Bowers, Marland Oil, 2, 3, 4, 5.
Spruen, Roxana Pet. 4.
18-33-3e Douthitt, Waite Phillips & Marland 1.
19-33-3e Bates, Waite Phillips & Marland 1
Nelson, Waite Phillips & Marland 1.
Heskett, T. B. Slick & Marland 1.
20-33-3e Johnson Dora, Waite Phillips & Marland 2, 3, 4, 6, 7, 8.
Glasgow, Waite Phillips & Marland Oil 3, 6.
Backus, Waite Phillips & Marland Oil 5, 6.
Wertman, Waite Phillips & Marland Oil 12, 13, 14.
Johnson L, Waite Phillips & Marland Oil 6, 7, 8.
Nelson, Waite Phillips & Marland Oil 2, 3.
21-33-3e Snyder, Waite Phillips & Marland Oil 2, 5.
28-33-3e Caldwell, Waite Phillips & Marland Oil 1, 2.
Henson, Gypsy Oil 1.
29-33-3e Beebe, Waite Phillips & Marland Oil 2, 3, 4.
30-33-3e Johnson, Waite Phillips & Marland Oil 1.
7-34-3e Tuttle, Waite Phillips 1.
17-34-3e Baird, Shawver & Elwell 1.
35-34-3e Baird, A. D. Morton et al 1.
15-34-4e Pollock, Bunnell et al 1.
20-34-4e Jarvis "A," Joe Nathan et al 1.
8-35-4e Buzzie, T. B. Slick 1.
17-35-7e Fall City, Phillips Pet. 20, 21, 23, 24, 25.
Shut Down
24-30-6e Ward, Chas. Christy 1.
31-30-6e Crouch, Titus et al 4.
31-32-4e Weir, Day & Bunnell 1.
29-33-3e Johnson-True, Waite Phillips & Marland Oil 1.
4-33-7e Countryman, Forrester et al 1.
7-33-7e Reding, Briggs & Ritchey 1.
17-34-3e Chenoweth, Elwell et al 1.
32-34-4e Whitney, Kan-O-Tex Rfg. 1.
5-35-5e Sterling, Springstead & Overlease 1.
4-31-5e Elliott, Boxer et al 1.
Rigs, 17; wells drilling, 105; total, 122.

GREENWOOD COUNTY
Rigs

12-20-10 Warrensburg, Phillips Pet. 1.
13-22-10 Warrensburg, Skelly Oil & Ritchey et al 2.
Kipfer, Allen et al 3.
19-22-10 Browning, Sinclair Oil 14, 15, 16.
Browning, White Eagle O. & R. 2.
20-22-10 Browning, Sinclair Oil 13, 17.
30-22-10 Prather, C. W. Titus et al 4.
Prather, Mid-Kansas Oil 4.
12-22-11 Bush, Empire G. & F. 1.
McGilroy, Fisher, Lauck, Moore et al 2.
14-22-11 Cravett, Empire G. & F. 1.
15-22-11 Pees, Empire G. & F. 4.
22-22-11 Bersie, Henderson, Holden & Milliken 6.
32-22-11 Cragan, Empire G. & F. 2.
De Malorie "C," York State Oil 2.
O'Neil, York State Oil 10.
27-22-13 Miller, Braden Bros. et al 1.
2-23-9e Green, Transcontinental Oil 8.
Shambaugh "B," Greenland Oil 1.
Green, Murphy et al 2, 3.
10-23-9e Green, Greenland Oil 4, 5.
15-23-9e Teeter, Skelly Oil & Emerald 2.
Teeter, Phillips Pet. 3.
16-23-9e Teeter, Empire G. & F. 23, 24.
Noler, Reveley et al & Emerald Oil 2.
24-23-9e Teeter, Mississippi Valley & Emerald Oil 1.
23-23-10 Allen, Mid-Kansas Oil 15.
29-23-10 Thrall, Mission Oil & Roth 23, 52, 53.
31-23-10 Martindale, Mid-Kansas Oil, 24.
8-23-11 Clopton, Empire G. & F. 12.
9-23-11 Tiffany, T. K. Simmons 1.
9-23-13 Schneider, Theta Oil 3.
10-23-11 Young, Theta Oil 8.
27-24-8e Kirk, Rhodes, Abell et al 1.
11-24-9e Olsen, Transcontinental Oil 11, 14.
23-24-9e Wiggins, Mission Oil 8.
27-24-9e Wiggins, Polhamus et al 2.
31-24-9e Claycomb, Bason et al 1.
12-25-8e Burkett, Roth & Faurot, 5.
4-25-9e Henley, Pure Oil 3.
19-25-9e Ladd, Mid-Kansas Oil 11.
30-25-9e Hoffman, Mid-Kansas Oil 6.
6-25-13 Gilroy, Bisango et al 6.
11-26-9e Teichgraeber, Selby Oil 1.
28-26-13 Ingersol, Maitland Oil 1.
5-25-9e Dibert, Polhamus et al 6.
Wells Drilling
8-22-10 Pixlee, Theta Oil & Kans. Oil 2.
Pixlee, Theta Oil 3.
13-22-10 Derbyshire, Pryor & Lockhart 4.
Kipfer, Syndicate Oil 2.
19-22-10 Browning, Sinclair Oil 12.
30-22-10 Prather, Phillips Pet. 1.
Prather, C. W. Titus et al 2, 3.
5-22-11 Hess, McGinnis et al 1.
7-22-11 Malone & Souder, White Eagle O. & R. 1.
DeMalorie, Davis-Alyard et al 3.
11-22-11 Hind, Empire G. & F. 4.
12-22-11 McGilroy, Fisher, Lauck & Moore, 1.
14-22-11 Freeman, Empire G. & F. 4.
15-22-11 Bartlett, Empire G. & F. 2.
22-22-11 Richards, Fisher, Lauck et al 2.
32-22-11 DeMalorie, York State Oil 7, 9.
36-22-12 Schwab, Skelly Oil 1.
17-22-13 Winzler, Empire G. & F. 1.
33-22-13 Storer, Skelly Oil 1.
1-23-9e Shambaugh, Youker et al 1.
2-23-9e Green, Transcontinental Oil 3, 6.
Hartley, Skelly Oil 1.
Shambaugh, Geenland Oil 1, 3, 2, 4.
10-23-9e Green, Greenland Oil 3.
Noler 2, 3, 4.
15-23-9e Teeter, Skelly Oil 3, 7.
Teeter, Phillips Pet. 2.
Teeter, McGinnis & Bittler 6, 7.
16-23-9e Teeter, Empire G. & F. 21, 22.
32-23-9e Stroup, Skellv Oil 1.
23-23-10 Allen, Mid-Kansas Oil 21.
28-23-10 Thrall, Mission Oil & Roth 47.
31-23-10 Martindale, Mid-Kansas Oil 19, 20, 21, 22, 23.
32-23-10 Thrall, Gt. Southern Oil 5.
McKee, Phillips Pet. 16.
Thrall, Mission Oil 7.
31-23-11 Beal, Ed Parkin et al 1.
32-23-11 Beal, Enterprise Dev. 1.
4-23-13 Inthurm, Haverhill Pet. 1.
33-23-13 Jenson, Callahan, Dingee et al 1.
1-24-9e Heddleson, Lewis Oil 4.
1-24-9e Cartright, Roth & Mission Oil 7.
Marshall, Arkansas Fuel Oil, 7, 8.
23-24-9e Wiggins, Rogers & Mission Oil 6, 7.
Osmundson, Gypsy Oil 3.
27-24-9e Hill, Fontaine et al 1.
34-24-9e Marshall, Roxana Pet. 5.
Nixon, Gypsy Oil 7.
23-24-10 Edwards, Jno. Edwards et al 1.
4-24-11 Short, Peerless & R. 1.
9-24-11 Clopp, Simmons et al 1.
30-24-11 Wiggins, McGinnis et al 1.
13-24-12 Barnett, White Oil Corp. 4.
14-24-12 Sullivan, Houston-Oklahoma Oil 10.
15-24-12 Johnson, Franklin Oil 1.
16-24-13 Blackwell, Rhodes & Abell 2.
18-24-13 Pees, Supersix Oil 1.
3-25-9e Hover, Phillips Pet. 6.
7-25-9e Wilkinson, S. M. Griggs 1.
19-25-9e Ladd, Mid-Kansas Oil 5.
30-25-9e Hoffman, Mid-Kansas Oil 5.
35-25-10 Begger, Kiskadden & Farr 1.
14-26-9e Burkett, Beacon Oil 1.
23-26-9e Wehrahing, Pierce et al 1.
14-24-9e Hellman, The Prairie O. & G. 12, 11.
Shut Down
2-22-11 Hines, Buck et al 1.
6-22-11 Fredrick, Connell et al 1.
33-22-11 Hillard, Phillips Pet. 5.
22-22-13 Povenmire, R. G. Gillespie 1.
10-24-13 Smith, Chambers & Spencer 1.
14-25-10 Norman, Jno. Jackson 1.
35-25-11 Babbit, Roth et al 1.
Rigs, 55; wells drilling, 90; total, 145.

LYON COUNTY
Rigs

32-21-12 Petroja, Landon et al 1.
Wells Drilling
4-19-12 Schultz, Jackson & Moreland 1.
29-21-12 Houghton, Southwestern Pet. 1.
Houghton, McMann Oil 1.
31-21-12 Jones, Schwartz et al 2.
32-21-12 Filer, Landon et al 1.
33-21-12 McIlvain, Kelley Bros. 1.
Rigs, 1; wells drilling, 6; total, 7.

MONTGOMERY COUNTY
Wells Drilling
20-31-15 Hudiburg, Orbins et al 1.
1-31-16 Dougherty, Haslett & Wells 1.
23-33-14 Miller, J. F. Morgan et al 1.
11-33-16 Zutz, Wilkins et al 1.
30-33-16 Davis, J. E. Weible et al 1.
6-33-17 Howard, Stryker et al 1.
9-34-14 Eaton, R. G. Gillespie 1.
31-34-15 Reed, Connelly et al 1.
5-35-15 Taylor, Keystone Oil 1.
12-35-16 Wilson, Tex-O-Kan Oil 1.
Shut Down
31-31-14 Feler, Remler et al 1.
2-32-13 Neiman, Dunn et al 1.
13-32-14 Slean, Galbreath, 1.
35-32-14 Drybread, Irish et al 1.
5-32-16 Brinkman, R. T. Cowell 1.
35-32-16 Wybenger, Sloan et al 1.
32-32-17 Hellums, Earl & Overfield 1.
24-33-13 Brooks, Steinberger Bros. 1.
25-33-14 Mason, Vennimen et al 1.
12-33-16 Painter, Superior Oil 1.
Good, Cross Prod. Co. 2.
35-33-16 Feits, Voise & Tabor 1.
3-33-17 Bellairs, Coffeyville Brick Co. 1.
4-33-17 Hall, Townsell & al 1.
30-33-17 Bunk, Wolf & Brown 1.
1-35-16 City of Coffeyville, Ed Karns 1.
4-35-17 Walker, Galloway & Roberts 1.
28-34-14 Owens, Phillips Pet. 1.
Rigs, 0; wells drilling, 28; total, 28.

RUSSELL COUNTY
Rigs

32-11-15w Boorth, Midwest Ref. 1.
5-12-15w Sutton, Derby Oil 2, 3.
Kellman, Streeter & Stearns, 1.
Sutton, Valerius Oil 3.
8-12-15w Oswald, Midwest Ref. 1, 2.
Oswald, Streeter & Stearns 4.
Wells Drilling
33-12-11 Cooper, Pomeroy et al 1.
5-12-15 Sutton "A," Derby et al 1.
Sutton, Valerius Oil 1, 2.
7-12-15w Oswald Valerius, Valerius Oil 5.
8-12-15w Oswald Ed, Valerius Oil 5.
Oswald Carrie, Valerius Oil 2, 3.
Oswald, Streeter & Stearns, 3.
17-12-15w Oswald-Valerius, Valerius Oil 4.
Shut Down
13-13-14 Hill, The Prairie O. & G. 1.
13-11-13w Pososhill, Sawtelle et al 1.
23-12-11w Dic, Ritchey & Mooe, 1.
24-13-13w Barbaugh, Lee, Bullock et al 1.
Rigs, 8 wells drilling, 14; total, 22.

SEDGWICK COUNTY
Rigs

34-26-1e Jadin, Wichita O. & G. 1.
Wells Drilling
11-26-1e Funk, J. H. Liggett 1.
26-28-1e Meens, L. E. Craig et al 1.
26-28-1w Whiten, Jasper & Beschka 1.
2-29-2e Fleming, Higgins 1.
Shut Down
6-25-1e Poff, Boyle, Preston & Tack 1.
9-25-2e Harrison, Smith & Keller 1.
14-29-2w McMillan, Curtis & Frost 1.
21-29-3w Webb, Allison & Titswilliams 1.
Rigs, 1; wells drilling, 8; total 9.

SUMNER COUNTY
Wells Drilling
7-30-1w Slutter, Ellis et al 1.
9-30-1w Stevenson, Champlin Rfg. 1.
16-30-1w Hitchcock, Champlin Rfg. 1.
36-30-2w Riner, Cosden & Co. 1.
12-30-4w Smith, Phillips Pet. 1.
16-31-2e Rutz, Cosden Oil 1.
5-32-2w Stayton, Wilcox Oil 1.
9-32-1e Hawkins, Waite Phillips 1.
26-33-1e Pruett, Waite Phillips 1.
21-33-2e Rutter, Roxana Pet. 1.
16-34-1e Stewart, Gypsy Oil 1.
17-34-1e Armspiger, Phillips Pet. 1.
22-34-2e Thieson, Marland Rfg. 1.
Lindsey, Marland Rfg. 1.
Mierau, Phillips Pet. 1.
23-34-2e Warner, Marland Rfg. 1.
34-34-1w Haynes, Shawver & Sutter 1.
6-35-1e Milligan, Tidal Oil 1.
14-35-1e Hertzell, National Rfg. 1.
34-34- 2 McCutcheon, Prairie O. & G. 1.
Rigs, 0; wells drilling, 20; total, 20.

WILSON COUNTY
Wells Drilling
2-27-14 Brown, Rhodes & French 1.
19-30-17 Feanner, Derby Oil 1.
32-30-17 Thompson, Hauck & Devore et al 1.
Shut Down
6-28-16 Prunty, Noble Oil 1.
24-29-13 Claybume, Gillock et al 1.
22-29-16 Thompson, Price et al 1.
31-29-17 Ford, Callahan et al 1.
31-30-14 Ashcroft, Kors et al 1.
29-30-17 Smalley, West & Williams 1.
Rigs, 0; wells drilling, 9; total, 9.

WOODSON COUNTY
Wells Drilling
29-23-15 Guy, Parrish et al 1.
24-25-13 Eades, Lassen & Davis 1.
13-25-14 Hunt, Dave Alter et al 1.
Shut Down
23-23-13 Hessler, Empire G. & F. 2.
14-25-13 Mason, Superior Oil 1.
22-25-14 Fry, Curtis Oil, 1.
4-26-14 Lauber, Herman & Oglesby 1.
29-26-17 Clark, Equity Oil 1.
Rigs, 0; wells drilling, 8; total, 8.

MISCELLANEOUS COUNTIES
Rigs

Comanche County—
23-31-18w Sterlock, I. M. Ruperd et al 1.
Graham County—
17-10-24w Baker, Gruen & Shriler 1.
Lane County—
11-18-27w Dickinson, Richards Rfg. 1.
Lincoln County—
29-12- 8w Rowher, Eisenhour et al 1.
McPherson County—
3-18- 2w Anderson, Young et al 1.
Mitchell County—
11- 7-10w Kyle, Brown & Woodard 1.
Morris County—
32-14- 7e Barber, Kline et al 1.
Ness County—
35-18-21w Ryerse, Bell & Sarton 1.
Pottawatomie County—
17- 9-12e Stewart, Crawford et al 1.
31- 9-12e Greschaber, Crawford et al 1.
Wells Drilling and Shut Down
(Shut down wells indicated by *)
Barber County—
23-30-14w Hargiss, B. B. Brown 1.
14-34-11w Martin, B. B. Brown et al 1.
Barton County—
27-18-12w Sooy, Cheyenne Oil 1*.
31-18-12w Taul, Haynes & Taul 1*.
22-18-13w Everleigh, John Herron 1.
17-19-11w Smith, Hufline et al 1.
Chase County—
21-19- 8e Elliston, Kingwood Oil 1.
19-19- 8e Holsinger, Alters et al 1*.
19-21- 5e Griffity, Security Oil 1*.
Clark County—
20-32-21w Morrison, Watchorn Oil 1.
Cloud County—
6- 6- 4w Murdock, Livingston et al 1*.
Coffey County—
14-23-13e Elliott, Mendenhall & Winkler, 7, 12.
Decatur County—
25- 2-26w Reager, Marland Oil 1.
Edwards County—
7-23-19w Noberwell, Edwards Oil Synd. 1.
Ellis County—
16-11-17w Demis, Sparks et al 1.
18-13-17w Polifke, J. Allen Harvey 1.
33-15-20w Murphy, Faler et al 1*.
Ellsworth County—
24-14- 7w Walker, United Pet. 1*.
6-14- 9w Jasper, John Harron et al 1*.
Finney County—
36-21-30w Wann, Garden City Oil 1.
Franklin County—
17-16-18e Owens, Smith, Trice & Fisher 1*.
Geary County—
9-12- 6e Wright, Liberty Texas Oil 1*.
30-11- 6e Foster, Liberty Texas Oil 1*.
Graham County—
23- 8-24w Taxton, Keys Bros. & Marine Pet 1.
Hamilton County—
5-26-41w Ransom, Wood Oil 1.
Harvey County—
26-24- 2e Elmer, Connell & Garden 1.
5-23- 1e Goertz, Union Oil 1*.
27-22- 2e Symons, S. A. Hunter 1*.
Hodgeman County—
19-21-22w Frizzell, Spencer & Marconette 1.
Jefferson County—
13- 9-19e Edwards, Northern Counties 1*.
Kingman County—
34-27- 7w Grazer, P. Fleeger et al 1.
Labette County—
14-31-17 Sparks, Ark Fuel Oil 1*.
26-32-17 Wilkes, Arkansas River Gas 1*.
1-32-20 Turman, Noble Oil 1*.
33-32-20 Burns, C. W. Willy et al 1*.
1-33-17 Hornsbeck, T. R. Cowell et al 1*.
5-35-20 Lips, Wantland et al 1*.
Lincoln County—
19-11- 6w Stone, Scott & Collins 1*.
22-11- 6w Lewis, Pope & Powell 1.
36-13- 7w Paul, United Pet 1*.
19-13- 9w Jellison, Equity Oil 1.
McPherson County—
3-17- 2w Anderson, Wynn et al 1*.
29-18- 2w Anderson, Waugh & Casey 1*.
1-19- 5w Erickson, Transcontinental Oil 1.
21-20- 2w Linn, Krown & Krown 1*.
Marion County—
8-21- 4e Wentz, White Eagle O. & R. 1.
9-21- 4e Wener, H. B. Garden et al 1.
32-21- 4e Equity Security, Morgan et al 1*.
Mitchell County—
23- 6- 9w Elder, Wilcox Oil 1.
Morris County—
21-17- 7e Welcher, Bowman & Jones 1*.
24-17- 9e Cessman, Rock Creek Oil 1.

Nemaha County—
19- 3-11e Meyers, Nemaha Oil 1*.
Osborn County—
9-10-14w Beelby, Knight et al 1*.
Osage County—
3-15-15e Unknown, Baker et al 1*.
27-15-16 Bailey, West et al 1*.
8-17-17 Nell Est., Mull-Vit Dev. Co. 1*.
Phillips County—
25- 4-16w Hull, Drost Drlg. Co. 1.
13- 5-18w McKinley, Good & Craine 1.
Pottawatomie County—
11-10-12 St. Marys, Crawford et al 1*.
Reno County—
5-25- 4w Williams, M. M. Travis et al 1.
Rice County—
10-18- 6w Walker, Jasper & Beschka 1*.
1-19- 7w Deeds, Pryor & Lockhart 1*.
21-20- 6w Barnes, Stamey et al 1.
26-20- 6w Johnson, Midland Oil 1*.
15-21-10w Taylor, H. T. Proctor 1*.
34-20 -6 Libby, The Prairie O. & G. 1.
Riley County—
26-10- 6e Marks, Pawnee O. & G. 1*.
20-10- 7e Thierer, Douglass & Youker 1*.
Rooks County—
30- 6-17w Low, Marland Oil 1.
7- 8-20w Saindon, Keys Pet. 1*.
25-10-19w Minx, J. C. Findiss et al 1.
Rush County—
10-18-16w Moore, Morgan & Downing 1*.
22-18-19w Kirby, Barber et al 1*.
Saline County—
29-14- 2w Davis, L. S. Johnson 1*.
26-15- 2w Shelton, Brown & Woodard 1*.
15-15- 2w Holmquist, Thralls et al 1*.
Seward County—
34-34-34w Wood, G. T .C. Dev. Co. & Defender Pet. 1*.
20-33-33w Seeley, Seward Co. Oil 1.
Stafford County—
29-21-11w Sifers, King & Langston 1*.
Trego County—
9-11-22w Kyser, A. D. Morton 1*.
16-11-24w Davis, Keys Bros. & Marine Pet. 1.
5-11-25w Walsh, Keys Pet. 1*, 2*.
Waubaunsee County—
15-13-12 Hendrickson, Williams et al 1*.
Washington County—
9- 5- 5e Wickham, Barnes Oil 1*.
Rig, 10; wells drilling, 86; total, 96.

EAST CENTRAL TEXAS

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Limestone-							
Freestone	23	4,115	4	3	5	13	18
Navarro	23	414	7	2	4	20	24
Miscellaneous	11	.....	11	0	6	28	34
Total Apr...	57	4,529	22	5	15	61	76
Total Mar..	104	17,309	26	2	18	76	94
Difference..	47	2,780	4	3	3	15	18

FREESTONE-LIMESTONE COUNTIES
Jackson, Farish, Watts & Collins 7.. 150
E. Dodd, Humble O. & R. 13 300
E. Dodd, Humble O. & R. 18 1000
Bays, Quaker Oil 1 ..... dry
Boyd, Pure Oil 13 40
Boyd, Pure Oil 15 175
Dodd, Humble O. & R. 14 700
Lindley, Humble O. & R. 6-B 275
Stroud, Magnolia Pet. 1 ..... gas
Stroud, Stroud et al 1 ..... gas
Arnett, Bains Creek O & G 1 ..... gas
McClelland, McDonald Bros. 1 ..... dry
Dodd, Humble O. & R. 15 250
Purifoy, Simms Oil 1 50
Boyd, Magnolia Pet. 25 ..... dry
Boyd, Pure Oil 14 75
Boyd, Pure Oil 20 175
Boyd Pure Oil 23 ..... dry
Bounds, Texas Co. 5 250
Dodd, Humble O. & R 12 125
Dodd, Humble O & R 16 250
Boyd, Magnolia Pet 26 100
Boyd, Pure Oil 10 200

Wells completed 23
Production 4115
Dry 4
Gas 3
Gas production 3,5000,000

NAVARRO COUNTY
Roberts, A Patrick et al 1 ..... dry
Swink, Sun Oil Co. 1 ..... gas
Webb, Humphreys Boyd Oil Co 10 ... 90
Absher, Atlantic O P & Penn 1 ..... dry
Kent, Texas & Magnolia 31 ..... dry
Irvine, Humble O. & R. 15-C 20
R. I. Kent, Humble O & R 9 18
R I Kent, Pure Oil 13 20
McCormick, E L Smith Oil 1 ..... dry
Morrow, J K Hughes Oil 4 ..... dry
Humphreys, Humble O & R 32 40
Smith, Gulf Prod 7 28
Kent, George Kent 1 20
Irvine, Humble O. & R. 18-C 15
Kent, Humble O & R 7 20
Smith, Roxana Pet 1 40
Smith, Roxana Pet 2 50
Bailey, Skelly Oil 1 30
Smith, Simms Oil 1 ..... dry
Alexander, J K Hughes Dev 11 ..... gas
Kent, Pure Oil 14 18
Greasie, Garland Kent 1 5
Quimby, Moore Bros 1 ..... abd

Wells completed 23
Production 414
Dry 7
Gas 2
Gas production 23,000,0000

MISCELLANEOUS
Falls County—
Graffenreid, Myrin et al 1 ..... dry
Penny, Edwin Falsey 1 ..... dry
Henderson County—
Springer, Cranfill et al 1 ..... dry
Murphy, Penn et al 1 ..... dry
Kaufman County—
Duff, Cranfill et al 1 ..... dry
Milam County—
Smith, Sinclair O & G 1 ..... dry
Letters, E C Nelson 1 ..... dry
Ashley, Beverly Oil 1 ..... dry
Buer, Beverly Oil 2 ..... dry
Bremond, Mills Bennett 1 ..... dry
Robertson County—
Wilkerson, J C Bland et al 1 ..... dry

Wells completed 11
Dry 11

FREESTONE-LIMESTONE COUNTIES
Rigs
Bounds, Patterson Lake Oil 1.
Crouch, Humble O & R 3.
Boyd, Pure Oil 21, 22.
Kennedy, Magnolia Pet 1.
Wells Drilling
Pickens, Kechi Pet 1.
Evans, Flynn et al 1 Pope Humble O & R 1.
Goodnite, Quaker Oil 1.
Dodd, Humble O & R 178.
Purifoy, McKinney & Duddle 1.
Smith, Pure Oil 16-B.
Boyd, Pure Oil 24.
Stitts, Leek et al 1.
Kennedy, Bains Creek Oil 1.
Welsh, Guffey & DeArmand 1.
Webster, Pure Oil 1.
Gill, Hudleston et al 1.
Rigs, 4; wells drilling, 13; total 17.

NAVARRO COUNTY
Rigs
Humphries, Humble O & R 33.
Kent, Humble O & R 11.
Bressie, G Kent 2.
Harvard, McNeely & LaSaur 1.
Beery, Elliott & Nicolle 1.
Wells Drilling
Green, Humble O & R 1.
Westbrook, Elliott & Nicolle 1.
Hill, Collins et al 1.
Hill, J K Hughes Dev 2.
Hill J K Hughes Dev 10-A.
Hill, Oxford Oil 1.
Hill, Stroube & Stroube 1-B.
Bush, Tidal Oil 5
Smith, Humble O & R 1.
Irvine, Humble O & R 19-C.
Kent, Humble O & R 16.
Kent, Pure Oil 15.
Moore, Smith et al 1.
McCage, Andrews Pet 1.
Kent, Garland Kent 15.
Szenasy, Garland Kent 1.
Bounds, Strotman et al 1.
Webb, Boyd Oil 1.
Allison, Simms Oil 6.
Millican, Richardson & McAllister 2.
Rigs, 5; wells drilling, 20; total 25.

MISCELLANEOUS
Rigs
Anderson County—
Turner, Hughes et al 1.
Cass County—
Speers, Bankers trust 1.
Caster, Gibbs Pet 1.
Kaufman County—
Becker, Atlantic O P et al 1.
Van Zandt County—
Green, Marland Oil 1.
Milam County—
Kime, Magnolia Pet 1.
Wells Drilling
Anderson County—
Parker, J E Williams 1.
Brooks & Auld, Rosser et al 1.
Monning Plant, Palestine O & G 1.
Bowie County—
Parkey, Dalby Springs O & G 1.
Richelle, Delaney O & G 1.
Cass County—
Evans, Caldwell et al 1.
Cherokee County—
Clapp, Collington Drilling Co. 1.
Falls County—
Thompson, Harrison et al 1.
Peacock, Highbanks Oil 1.
Williams, Reiter & Foster 1.
Henderson County—
Bounds, F. Haynes 1.
Hopkins County—
Brooks, Kelsey et al 1.
Clark, Roxana Pet 1.
Hunt County—
Barnett, Tullal & Kelsey 1.
Lytol, Rycade Oil 1.
Fee, Marland Oil 1.
Milam County—
Ashley, Beverley Oil 1.
Rains County—
Humphreys, Anderson et al 1.
Peeples, Cree & Coulter 1.
Red River County—
Dinviddie, Brewer Hines 1.
Simmons, Clarksville Texas Co. 1.
Edwards, Isabelle Gibson 1.
Antone, Johnson Pet 1.
Worthan, O'Bannon Bros 1.
Garland, Riggins Oil 1.
Robertson County—
Wilkerson, J C Bland 1.
Titus County—
Antone Magnolia Pet 1.
Van Zandt County—
Jones, Mexia Drilling Co. 1.
Dunbar, Terrill Oil 1.
Rigs, 6; wells drilling, 28; total, 34.

NORTH CENTRAL TEXAS

Summary of Wells Completed

District—	Comp.	Prod.	Dry	Gas
Wichita County	49	1,518	15	0
Archer	139	7,742	49	0
Young	69	9,453	26	0
Stephens	19	803	4	3
Eastland	10	119	6	1
Wilbarger	36	3,087	9	1
Reagan	6	4,950	3	1
Brown	5	520	1	0
Wildcats	48	3,080	24	3
Total April	381	31,272	137	9
Total March	291	22,229	114	8
Difference	90	9,043	23	1

Summary of Rigs and Wells Drilling

District—	Rigs	Drg.	Ttl.
Wichita County	2	36	38
Archer	9	77	86
Young	7	35	42
Stephens	7	32	39
Eastland	5	31	36
Wilbarger	9	79	88
Reagan	1	15	16
Brown	1	3	4
Wildcats	15	95	110
Total April	56	403	459
Total March	75	328	403
Difference	19	75	56

COMPLETIONS
WICHITA COUNTY
Adams, Adams and others, 2 1
Hefley, F. H. E. Oil Co., 1 ..... dry
Bailey, Hunter and others 4 3
Collen, Hunter and others 2 ..... dry
Burnett, Barkland and others 4 15
Jennings, Dale Oil Corp 7 60
Douglas, Drillers Dev. Co. 1 group 2.. 2
Douglas, Drillers Dev. Co. 2 group 2.. dry
Burnett, Howell and others, 3 60
Allen, Magnolia Pet. Co. 37 ..... dry
Nance, Ryan Pet. Co. 29 25
Burnett, Texhoma O. & R. Co. 15-B.... 60
Donohoe, Couch and others 12 30
Bailey, Texhoma & Hunter, 2 45
Burnett, Atlantic O. Prod. Co. 1 ..... dry
Mangold, Bain-Morris 2 ..... dry
Pierce, Empire G. & F. Co., 6 ..... dry
Watkins, Hawkins and others, 5..... 10
Watkins, Hawkins and others, 6..... dry
Abernathy, Magnolia Pet. Co. 9..... dry
Rio Bravo, Magnolia Pet. Co., 42 15
Waggoner, Norba Oil Co., 2 25
Allen & Kemp, Pet. Prod. Co., 4 45
Nance, Ryan Pet. Co. 30 30
Donohoe, Couch and others 13 35
Barker, Fisher and others, 9 5
Barker, Fisher and others, 10 25
Morgan, Magnolia Pet. Co., 2..... 10
Beach, Magnolia Pet. Co., 22 50
Jennings, Dale O. Corp., 8 25
Watkins, Gardner and others 5..... 100
Waggoner, Hammond and others 1..... dry
Allen & Kemp, Kruger and others, 12 60
Douglas, Magnolia Pet. Co., 12 ..... dry
Roller, Minn.-Tex O. Co., 7 ..... dry
Waggoner, Norba O. Co., 7 ..... dry
Rio Bravo, O'Neil and others, 14 75
Burnett, Perkins and others 14 46
Burnett, Texhoma O. & R. Co., 16-B.. 55
Burnett, Texhoma O. & R. Co., 2-E.. 57
Throckmorton, Texhoma O. & R. Co., 1 dry
Bailey, Texhoma & Hunter, 3 27
Reilly, White and others 1 ..... dry
Pierce, Empire G. & F. Co., 8 35
Pierce, Empire G. & F. Co., 9 57
Douglas, Humble O. & R. Co., 17 15
Maer, Magnolia Pet. Co., 16 90
Rio Bravo, Magnolia Pet. Co., 43 40
Maer, Pet. Prod. Co., 13 225

Wells completed 49
Production 1518
Dry 15

ARCHER COUNTY
Parrish, Atlantic Oil Prod. Co., 1-C.. 80
White, Carter and others, 7-C 28
Parrish, Franklin and others, 4-B.... 85
Oil. Inv. Co., Humble O. & R. Co., 3.. 5
Wilson, Prairie O. & G. Co., 32-D.... 10
Wilson, Sixty-Six O. Co., 3-C..... dry
Pease, The Texas Co., 1-B ..... dry
Nichols, Underwood Drlg. Co., 1 ..... dry
Coffield, Archer O. Co., 1 65
Hayter, Atlantic O. Prod. Co., 1 72
Rogers, British American O. Co., 3 20
Holosek, Camp O. & G. Co., 1 ..... dry
Campbell, Bank, Christie Bros., 2 195
Stampfli, Daniels and others, 3 81
Roach & Junkers, Davis and others 4 80
Abercrombie & Taylor, Green and others 4 ..... dry
Rogers, Gwynn and others, 2-A 25
Scruggs, Gwynn and others, 1 65
Kenel, Hardesty and others, 1 ..... dry
Stampfli, Harris and others, 3 ..... dry
Stampfli, Harris and others, 4 150
Stampfli, Harris and others, 1-B 70
Stampfli, Humble O. & R. Co., 4..... 110
Stampfli, Humble O. & R. Co., 5..... 120
Rogers, Gulf Prod. Co., 4 45
Rogers, Gulf Prod. Co., 5 57
Stampfli, Gulf Prod. Co., 4 60
Stampfli, Gulf Prod. Co., 5 85
Rogers, Magnolia Pet. Co., 2..... dry
Stampfli, Magnolia Pet. Co., 3 70
Echols, Murchison and others, 2..... 320
Harmel, Murchison and others, 9-C.... 60
Rogers, Panhandle Ref. Co., 1 150
Kunkel, Roxana Pet. Co., 5 25
Kunkel, Roxana Pet. Co., 7 40
Richardson, Shamrock O. Co., 9-A.... 150
Hausler, Shaw and others, 8 120
Hayter, Shaw and others, 4-B 2
Hayter, Shaw and others, 5 125
Hayter, Shaw and others, 6 ..... dry
Monohan, Shaw and others, 9-A ..... dry
Pace, Southern Exploration Co., 1 ..... dry
Kunkel, Sun O. Co., 3 75
Kunkel, Sun O. Co., 5 ..... dry
Hill, The Texas Co., 2 20
Hill, The Texas Co., 3 3
Ragle, The Texas Co., 10 60
Wilson, Bridwell and others, 7..... 60
Wilson, Boggs and others, 1 ..... dry
Wilson, Burns and others, 1 ..... dry
Orton, Humble O. & R. Co., 3 10
Wilson, Waite Phillips, 7 120
White, Phillips Pet. Co., 16 85
Wilson, Prairie O. & G. Co., 34-D..... 12
Wilson, Riner and others, 17-B..... 115
Jackson, Shappell O. Co., 17 60
Parrish, Simms O. Co., 7 120
Wilson, Staley and others, 10-C 65
Wilson, Texhoma O. & R. Co., 4-C ... 25
Boren, Bridwell and others, 2 ..... dry
Echols, Clark and others, 7 180
Campbell, Cook and others, 1 ..... dry
Harmel, Continental O. Co., 8 25
Stampfli, County Line O. Co., 5 62
Carter, Empire G. & F. Co., 1 30
Rogers, Fisher and others, 3 65
Scruggs, Gwynn and others, 2 ..... dry
Scruggs, Gwynn and others, 3 ..... dry
Ragle, Humble O. & R. Co., 4 100
Stampfli, Humble O. & R. Co., 6 150
Stampfli, Magnolia Pet. Co., 4 95
Richardson, McGee and others, 2 150
Kunkel, O'Donohoe and others 1 ..... dry
Campbell Bank, Shamrock O. Co., 1 ... dry
Richardson, Shamrock O. Co., 13-C.... 125
Hayter, Shaw and others, 2-A 100
Monohan, Shaw and others, 10-A 40
Rogers, Staley and others, 1 ..... dry
Hamilton, Texhoma O. & R. Co., 1..... dry
Harbison, Texhoma O. & R. Co., 10.... 200
Harbison, Texhoma O. & R. Co., 11.. dry
Rogers, United Central O. Co., 4..... 95
Monohan, Gulf Prod. Co., 10 235
Oil Inv. Co., Gulf Prod. Co., 11..... 110
Rogers, Gulf Prod. Co., 2-C 130
Rogers, Gulf Prod. Co., 2-B ..... dry
White, Carter and others, 6-C 35
Wilmot, Dale O. Corp., 10 40
Parrish, Franklin and others, 5-B..... 105
Fee, Oil Investment Co., 7 65
Orton, Panhandle Ref. Co., 4 20
Sprague, Saunders and others, 1 ..... dry
Chilson, Wolfe & Son, 2 ..... dry
Jeske, Burton and others, 1 ..... dry
Harmel, Continental O. Co., 10..... 35
Roach & Junker, Davis-Hart Co., 5 67
Rogers, Gwynn and others, 1-B ..... dry
Stampfli, Humble O. & R. Co., 7..... dry
Rogers, Magnolia Pet. Co., 3 5
Cowan, Major Pet. Co., 3 100
Griffin, Murchison and others, 18 37
Harmel, Murchison and others, 10-C.... 30
Prideaux, Nicholson and others, 1.... 5
Farmer, Ray and others, 1 ..... dry
Richardson, Shamrock O. Co., 15-C.. 125
Richardson, Shamrock O. Co., 16-C.... 150
Hayter, Shaw and others, 7-B ..... dry
Jeske, Sun Co., 1 ..... dry
Boren, Texas Co., 1 ..... dry
Harbison, Texhoma O. & R. Co., 12.. dry
Rogers, United Central O. Corp., 5.... 120
Kunkel, White Bros., 6 120
Kunkel, White Bros., 7 220
Parrish, Atlantic O. Prod. Co., 2-C.... 440
Parrish, Burns and others, 1 ..... dry
White, Carter and others, 8-C ..... dry
Wilson, Carter and others, 1..... dry
Wilson, Oasis O. Co., 1 ..... dry
Wilson, Riner and others, 15-B ..... dry
Wilson, Riner and others, 25 120
Parrish, Union O. Co., 1 85
Rogers, Clark and others, 2 ..... dry
Harmel, Continental O. Co., 9 ..... dry
Seay, Comac O. Co., 1 ..... dry
Hayter, Grisham and others, 4..... 70
Rogers, Gwynn and others, 3-A..... 60
Stampfli, Humble O. & R. Co., 8..... dry
Stampfli, Humble O. & R. Co., 9..... 75
Stampfli, Humble O. & R. Co., 10.... 90
Rogers, Magnolia Pet. Co., 4..... 30
Richardson, Shamrock O. Co., 17-C.... 90
Richardson, Shamrock O. Co., 18-C.... 60
Hayter, Shaw and others 3-A..... dry
Monohan, Shaw and others 11-A ..... dry
Monohan, Shaw and others 1-C..... dry
Rogers, Shaw and others, 1..... 110
Harbison, Texhoma O. & R. Co., 13.. 60
Morrison, Texhoma O. & R. Co., 1.... dry
Abercrombie, Young and others, 1... dry

Wells completed 139
Dry 49
Production 7142

YOUNG COUNTY
Graves, Anderson and others, 1..... 20
Haley, Andrade and others, 1..... dry
McLaren, Christie Bros., 3..... 60
Wilde, Gilliland and others, 1..... dry
Bellamy, Knight and others, 1..... dry
Cheeves, Moore and others, 1..... dry
Haygood, Gulf Prod. Co., 1..... dry
Gambrell, Murchison and others, 14.... 95
Gambrell, Murchison and others, 15.... 275
Gambrell, Murchison and others, 16.... 250
Schlegel, Murchison and others, 4..... 300
Schlegel, Murchison and others, 5..... 300
Schlegel, Murchison and others, 6..... 300
Schlegel, Muse and others, 1-A..... 25
Jordan, Pois and others, 1 ..... dry
Carpenter, Simms O. Co., 4-A 67
Carpenter, Simms O. Co., 7 410
Carpenter, Simms O. Co., 1-B 350
Hawkins, Suggett and others, 1..... dry
Gambrell, The Texas Co., 9 555
Kendrick, Wichtex O. Co., 1..... dry
Mothes, Burns and others, 1 ..... dry
Schlegel, Humble O. & R. Co., 2..... 300
Schlegel, Humble O. & R. Co., 3..... 125
Schlegel, Humble O. & R. Co., 6..... 300
Daws, Johnston and others, 1..... dry
Marshall, Keener O. & G. Co., 1..... dry
Gambrell, Murchison and others, 17.... 50
Gambrell, Murchison and others, 18.... 50
Haygood, Murchison and others, 1..... 335
Schlegel, Murchison and others, 7..... 100
Schlegel, Murchison and others, 10.... dry
Hamilton, Norton and others, 1..... 100
Powell, Perkins and others, 1..... dry
Carpenter, Simms O. Co., 2-B 200
Gambrell, The Texas Co., 7 300
Gambrell, The Texas Co., 10..... 275
Gambrell, The Texas Co., 7..... 250
Haygood, Lee Wilson, 2 200
Fee, Burns and others, 1 ..... dry
Rogers, Christie Bros., 1 ..... dry
Schlegel, Gardner and others, 1..... dry
Schlegel, Gulf Prod. Co., 6..... dry
Buster, Mitcham and others, 1..... dry
Schlegel, Muse and others, 2-A 35
Schlegel, Muse and others, 3-A..... dry
Schlegel, Muse and others, 1-C ..... dry
Gambrell, The Texas Co., 11..... 400
Wilson, Welch and others, 1..... 12
Haygood, Wilson and others, 3..... 360
Wells, Wurtz and others, 1..... dry
Gose, Andrade and others, 1..... dry
Weaver, Burton and others, 1..... dry
McLaren, Hinson and others, 4..... 90
Campbell, Humble O. & R. Co., 3..... 95
Schlegel, Humble O. & R. Co., 4..... 40
Harrison, Marshall O. Co., 1..... dry
Kunkel, Mooers and others, 1..... dry
Haygood, Murchison and others, 2..... 195
Schlegel, Murchison and others, 8..... 90
Schlegel, Murchison and others, 11 ... 335
Hamilton, Norton and others, 2..... 225
Gambrell, Panhandle Ref. Co., 3..... 445
Stewart, Roamer O. Co., 6..... dry
Carpenter, Simms O. Co., 8..... 300
Carpenter, Simms O. Co., 2-B..... 500
Gambrell, The Texas Co., 13..... 230
Gambrell, The Texas Co., 16..... 465
Gambrell, Texhoma O. & R. Co., 8..... 125

Wells completed 69
Dry 26
Production 9463

STEPHENS COUNTY
Bruce, Quakins Pet. Co., 2..... dry
Binney, Texas Pacific C. & O. Co., 49.. 6
Williams, Thompson O. Corp., 4..... 150
Davis, Gulf Prod. Co., 8..... 210
Bruce, Price and others, 5..... 190
Smith, Texas Pacific C. & O. Co., 1.. gas
Parks, The Texas Co., 41-A 125
Williams, Thompson and others 3..... 4
Akin, Brown and Co., 2..... dry
Jones, Humble O. & R. Co., 2..... 60
Decker, Simms O. Co., 4..... 6
Stoker, Sun Co., 6..... 15
Gardenshire, Texas Fidelity O. Corp.. 8
Pierce, Texas Pacific C. & O. Co. 2.. gas
Gandy, Hughes and others, 4..... dry
Ashmore, Texas Fidelity O. Corp.. 1.. dry
Smith, Texas Pacific C. & O. Co., 3.. gas
Parks, The Texas Co., 42-A 5
Rosenquest, Williams and others, 10.. 5

Wells completed 33
Production 861
Dry 4
Gas 3
Gas production 16,000,000

EASTLAND COUNTY
Cooksey, Knox-Lewis O. Co., 1..... dry
Allman, Magnolia Pet. Co., 2..... 65
Ford, Pittman and others, 3..... dry
Elliott, Allen and others, 1..... 90
Rice, Rosell Prod. Co., 1..... dry
Allen, McLester O. Co., 1..... 24
Harrell, States O. Corp., 15..... dry
Kincaid, Ardizone and others, 9..... gas
Jones, Parsons and others, 1..... dry
Lamb, Kimmell and others, 1..... 5

Wells completed 18
Production 133
Dry 4

Gas 1
Gas production 4,500,000

WILBARGER COUNTY

Castlebury, Humble O. & R. Co., 6 285
Stephens, McCamey and others, 5 ..... gas
Waggoner, Ruff and others, 1 ..... dry
Stephens, South Vernon O. Co., 9 40
Stephens, South Vernon O. Co., 13 210
Stephens, Staley and others, 3 100
Sheldon, Tippit and others, 1 ..... dry
Richardson, McCamey and others, 3.... dry
Stephens, McCamey and others, 8 40
Stephens, McCamey and others, 9 55
Sumner, Magnolia Pet. Co. 47 115
Waggoner, Noble O. Co., 1 120
Castlebury, Priddy and others, 1 ..... dry
Stephens, Staley and others, 1 35
Parker, Atlantic O. Prod. Co., 1 ..... dry
Stephens, Barkley and others, 1 ..... gas
Zipperle, Continental O. Co., 3 55
Bord, Electra Gulf O. Co., 1 ..... dry
Neal, Hamilton and others, 1 ..... dry
Castlebury, Humble O. & R. Co., 10.... 225
Richardson, McCamey and others, 5 45
Waggoner, Mulligan and others, 1 ..... dry
Zipperle, Prince Bros., 1 ..... dry
Stephens, South Vernon O. Co., 14.... 200
Bond, Winnipeg O. Co., 5 310
Bond, Winnipeg O. Co., 6 385
Waggoner, Atlantic O. Prod. Co., 1 125
Zipperle, Atlantic O. Prod. Co., 2 100
Stephens, Bridwell and others, 7 280
Stephens, Humble O. & R. Co., 6 12
Stephens, McCamey and others, 10 75
Castlebury, Priddy and others, 3 40
Bond, Ray and others, 3 35
Bond, Ray and others, 7 100
Bond, Ray and others, 8 100
Streit, Wood and others, 1 ..... dry

Wells completed 36
Production 3087
Dry 9
Gas 1
Gas production 2,000,000

BROWN COUNTY

Newton, Mahlstedt Mook O. Co., 5 290
McDonough, Canyon O. & G. Co., 4-B.. dry
Prather, Gillett and others, 2 80
Newton, Gillman and others, 8 50
Newton, Mahlstedt Mook O. Co., 7 100

Wells completed 5
Production 520
Dry 1

REAGAN COUNTY

University, Grayson and others, 1 ..... dry
University, Big Lake O. Co., 5 1970
University, Big Lake O. Co., 21 ..... gas
Sawyer, Simms O. Co., 1 ..... dry
University, Texon O. & L. Co., 5, group 1 2980
Ingham, Wrightsman and others, 1.... dry

Wells completed 6
Production 4950
Dry 3
Gas 1
Gas production 50,000,000

WILDCATS

Hutchinson County—

Whittenburg, Douglas O. Co., 1 52
Smith, Dixon Creek O. Co., 1 200
Kingsland, Twin Six O. Co., 1 204
Smith, Western Enterprise O. & G. Co., 1 10

Carson County—

Burnett, Gulf Prod. Co., 5 312
Burnett, Silk and others, 3-A 90
Burnett, American Ref. Co., 1-B..... 250
Burnett, Crosbie O. Co., 1 200
Burnett, Marland O. Co., 1 850

Baylor County

Wallace, Richardson Bros., 1 ..... dry
Street, Apple-Brandeberry O. Co., 1.. dry

Runnells County—

Russell, Russell Prod. Co., 2 ..... dry

Shackelford County—

Jeter, Hope Pet. Co., 1 35
Green, Humble O. & R. Co., 1 ..... dry
Jackson, Phillips Pet. Co., 1 100
Moberly, Applegate and others, 1 5
Block, Loggie and others, 1 ..... dry

Callahan County—

Isenhower, Dowell Bros., 1 ..... dry

Potter County—

Rivins, Amarillo O. Co., 1-B 250

Clay County—

The Texas Co., Lone Star Gas Co., 1... gas
Dunn, Southern Exploration O. Co., 1.. dry
Magnolia Pet. Co., Lone Star Gas Co. 1 gas
Martin, Lone Star Gas Co., 22 ..... gas
Fee, Culbertson and others, 1 ..... dry
Gore, Halmack O. Co., 1 ..... dry

Gray County—

Wilson, Wilcox O. & G. Co., 1 ..... dry

Montague County—

Salmon, Humphreys-Boyd, 1 40
Jones, Humphreys-Body, 1 75
Gist, The Texas Co., 3-A ..... dry
Salmon, The Texas Co., 1 ..... dry
Howard, Daniels and others, 1 ..... dry
Howard, Petroleum Prod. Co., 1 ..... dry
Howard, Texhoma O. & R. Co., 3 45

Throckmorton County—

Davis, McNeil and others, 1 ..... dry
Rogers, Davis Hart O. Co., 1 ..... dry
Williams, Murchison and others, 1 ..... dry
Martin, McGee and others, 1 ..... dry
Newton, Skinner and others, 1 ..... dry
Lester, McGee and others, 1 ..... dry
Travis Co. School Land, McNeil and others, 1 ..... dry
Peck, Plains Prod. Co., 1 ..... dry

Palo Pinto County—

Bond, Owens and others, 1 ..... dry
Hilson, Monning and others, 1 ..... dry
Stuart, Moore and others, 2 15

Mitchell County—

Keynard, Eastland O. Co., 2 80
Miller, Sloan and others, 3 50
Morrison, California Co., 12 50
Elder Lease 2, California Co., 1..... 167

Wells completed 48
Production 3080
Dry 24
Gas 3
Gas production 4,250,000

WICHITA COUNTY

Rigs

Hodges, Allen and others, 1.
Pierce, Empire G. & F. Co., 10.

Wells Drilling

Beach, Bonchil Co., 6.
Heffley, Brookover and others, 1.
Keller, Continental O. Co., 6.
Donohoe, Couth and others, 14.
Gaston, Fowler and others, 1.
Bailey, Hunter and others, 3.
Weeth, Magnolia Pet. Co., 1.
Reilly, Magnolia Pet. Co., 110.
Bailey, Texhoma & Hunter, 6.
Musgrove, Wilcox and others, 1.
Fossett, Brashear and others, 1.
Watkins, Hawkins and others, 7, 1-B.
Burnett, Howell and others, 4, 1.
Mitchell, Hill and others, 1.
Waggoner Bros., Humble O. & R. Co., 2.
Allen & Kemp, Kruger and others, 13.
Honaker, Magnolia Pet. Co., 67.
Maer, Magnolia Pet. Co., 17, 18, 19.
Rio Bravo, Magnolia Pet. Co., 45.
Watkins, Magnolia Pet. Co., 4.
Burnett, Moore and others, 4.
Rio Bravo, O'Neil and others, 15.
Maer, Pet. Prod. Co., 14.
Nance, Ryan Pet. Co., 33.
Burnett, Section 2, O. Co., 7.
Daume, Stidham and others, 3.
Burnett, Texhoma & Cullum, 7-A, 3-B, 4-C, 3-E.
Ward and Todd, Trimutual O. & G. Co., 9.
Pace, Underwood Drlg. Co., 1.
Rigs, 2; wells drilling, 36; total, 38.

ARCHER COUNTY

Rigs

Dale Bros., Beaudoin and others, 1.
Wilson, Carter and others, 1.
Lemmon, Bathlor and others, 1.
Echols, Clark and others, 9.
Stampfli, County Line O. Co., 6, 7.
Morrison, Jones and others, 1.
Walsh, Sheldon and others, 1.
Kunkel, White Bros., 10.

Wells Drilling

Parrish, Atlantic O. Prod. Co., 7-A.
Wilson, Barnes and others, 4.
Wilson, Bridwell and others, 8.
Wilson, Carter and others, 1.
Wilmot, Dale O. Corp., 11.
Wilson, Empire G. & F. Co., 3-A.
Wilson, Farish and others, 1.
Parrish, Franklin and others, 7-B, 8-B.
Parkey, Humble O. & G. Co., 1-A.
White, Jetter and others, 3.
Wilson, Lawson and others 4.
Rutty, Lincoln and others, 1.
Wilson, Maxson and others, 1.
Wilson, McCarty O. Co., 1.
Carson, Norwood and others, 1.
Fee, Oil Investment Co., 8.
Woodrum, Waite Phillips, 1.
White, Phillips Pet. Co., 59, 61, 62.
Wilson, Prairie O. & G. Co., 10-A.
Nichols, R. M. F. Oil Co., 9.
Wilson, Riner and others, 18-B.
Parrish, Simms O. Co., 8.
Wilson, Staley and others, 11-C.
Priddy, Sun Co., 1.
Wilson, Texas Unity O. Co., 1.
Wilson, Texhoma O. & R. Co., 6-C, 4-E.
Parmenter, Thomas and others, 1.
Reilly, Underwood Drlg. Co., 1.
Wilson, United Central O. Co., 1.
Coffield, Arthur O. Co., 2.
Cowan, Clark and others, 1.
Wilson, Mitcham and others, 1.
Porter, Rayzor and others, 1.
Seay, Ross and others, 1.
Abercrombie & Taylor, Sun Co., 3.
Farmer, Sun Co., 10.
Rogers, British American O. Co., 6.
Prideaux, Brunson and others, 1.
Campbell Bank, Christie Bros., 4.
Echols, Clark and others, 8.
Harmel, Continental O. Co., 11, 12.
Roach & Junker, Davis Hart Co., 6.
Prideaux, Dolman and others, 1.
Rogers, Fisher and others, 4.
Rogers, Foster and others, 5.
Rogers, Gwynn and others, 4-A.
Scott, Jennings and others, 1.
York, Maer and others, 1.
Rogers, Magnolia Pet. Co., 1-B.
Stampfli, Magnolia Pet. Co., 5, 7.
Wilborn, Magnolia Pet. Co., 1.
Ward, Marland O. Co., 2.
Richardson, McGee and others, 3.
Lowe, Mid-Kansas O. & G. Co., 1.
Echols, Murchison and others, 3, 4.
Lowe, Muse and others, 1.
Rogers, Panhandle Ref. Co., 2.
Ward, Richardson and others, 1.
Kunkel, Roxana Pet. Co., 3.
Richardson, Shamrock O. Co., 9-C.
Hayter, Shaw and others, 4-A.
Rogers, Shaw and others, 2.
Bloodworth, Staley and others, 1.
Davis, The Texas Co., 27.
Harbison, Texhoma O. & R. Co., 14, 15.
Rogers, United Central O. Corp., 6, 7.
Kunkel, White Bros., 9.
Greenway, Willis and others, 1.
Rigs, 9; wells drilling, 77; total, 86.

YOUNG COUNTY

Rigs

Fee, Bashara and others, 1.
Cardwell, Coleman and others, 1.
Logan, Hoffer O. Corp., 1.
Logan, Mahlstedt-Mook O. Co., 1-A.
Smith, Security O. Co., 1.
Donnell, Sun Co., 3.
Gambrell, The Texas Co., 15.

Wells Drilling

Craig, Dunn and others, 1.
Womack, Everest and others, 1.
Graves, F. H. E. Oil Co., 2.
Faith, Gwynn and others, 1.
Loquey, Hinson and others, 1.
Schlegel, Humble O. & R. Co., 8, 9, 10.
Vernon, Jenson and others, 1.
Logan, Johnston and others, 2.
Logan, Mahlstedt-Mook O. Co., 1-A.
Scarborough, McGarr and others, 1.
Thedford, Moore and others, 1.
Schlegel, Murchison and others, 9, 12.
Hamilton, Norton and others, 4.
Gambrell, Panhandle Ref. Co., 4.
Van Hamert, Panhandle Ref. Co., 1.
Cloud, Reed and others, 1.
Carpenter, Simms O. Co., 5-B, 6-B.
Fee, Stovall and others, 3.
Finch, Street and others, 1.
Rogers, Sun Co., 1.
Carr, The Texas Co., 1.
Gambrell, The Texas Co., 12, 14, 17, 18, 20.
Graham, The Texas Co., 1.
Belknap Coal., Whitehead and others, 1-B.
Furr, Wichtex O. Co., 1.
Logan, Lee Wilson, 1.
Haygood, Wolf and others, 1.
Rigs, 7; wells drilling, 35; total, 42.

STEPHENS COUNTY

Rigs

Hill, Mid-Kansas O. & G. Co., 16.
Lowe, Mid-Kansas O. & G. Co., 3 Acct. 2.
First National Bank, Walker and others, 3.
Akin, Brown & Co., 3.
Pritchard, Hickey and others, 1.
Decker and others, Simms O. Co., 5.
Stuart, Strawn Pet. Co., 22.

Wells Drilling

Keel, Humble O. & R. Co., 6.
Atkins, Mid-Kansas O. & G. Co., 11 Acct. 1
Hill, Mid-Kansas O. & G. Co., 13 Acct. 16.
Keel, Pender Prod. Co., 5.
Allen, Phillips Pet. Co., 1.
Bell, Roeser and others, 5.
Brown, Rosell Prod. Co., 2-B.
Higginbotham, Snowden & McSweeney, 5.
Stoker, Sun Co., 5.
Martin, Texas Consolidated O. Co., 6.
Kirtley, Texas Pacific C. and O. Co., 4.
Pritchard, Barkley and others, 1.
Pisgah Church, Buckeye P. & S. Co., 1.
Langford, Carter and others, 2.
Jones, Curry Pool O. Co., 2.
Crowley, Edson and others, 2.
Ming, Holcomb and others, 1.
Grimes, Kleinfelder and others, 2.
Gratz, Landreth Prod. Co., 2.
Jones, Magnolia Pet. Co., 4.
Walker, Magnolia Pet. Co., 5.
Head, Mook Texas Oil Co., 2.
Elder, Pender Prod. Co., 1.
Decker, Simms O. Co., 5.
Moore, Phillips Pet. Co. 2.
Stuart, Strawn Pet. Co., 22.
McMeen, Sun Co., 7.
Adams, Texas Pacific C. & O. Co. 6.
Binney, Texas Pacific C. & O. Co., 51, 52.
Hand, Texas Pacific C. & O. Co., 2 Acct. 2.
Veale, Texas Pacific C. & O. Co., 1.
Parks, The Texas Co., 41-A.
Rigs, 7; wells drilling, 32; total, 39.

EASTLAND COUNTY

Rigs

Allen, Allen and others, 1.
Brewer, Cornelius Bros., 1.
Harrell, Mook Texas O. Co., 4.
Bucy, Kimmell and others, 1.
Leveridge, Reeves and others, 1.

Wells Drilling

Wilson, Calloway and others, 1.
Gholson, Gholson and others, 1.
Allen, Lightfoot and others, 1.
Hankins, Magnolia Pet. Co., 8.
Harris, Magnolia Pet. Co., 6.
Rodgers, Magnolia Pet. Co. 5.
Harrell, Mid-Kansas O. & G. Co., 10 Acct. 2.
Motes, Parsons and others, 2.
Downtain, Porter Dev. Co., 1.
Roper, Prairie O. & G. Co., 22.
Bond, Reclamation O. Co., 6, 7.
Homer, States O. Corp., 5.
Loper, States O. Corp., 7-A.
Summerall, States O. Corp., 4.
Cox, Urbin and others, 1.
Hamilton, Westheimer and others, 9.
Donovan, Adams and others, 1.
League, Adams and others, 1.
Robinson, Burkett and others, 1.
Stubblefield, Car-De-Zone O. Co., 4.
Davenport, Dorothy O. Co., 2.
Dulin, Lindsley and others, 2.
Teston, Pennant O. & G. Co., 8.
Leveridge, Reeves and others, 1.
Noble, Root and others, 1.
White, Rumbaugh and others, 1.
Calvert, States O. Corp., 1.
Hise, States O. Corp., 1.
Eppler, Texas Dev. Co., 1.
Dulin, Weaver O. Corp., 2.
Rigs, 5; wells drilling, 31; total, 36.

WILBARGER COUNTY

Rigs

Lunday, Allday and others, 1.
Waggoner, American Ref. Co., 1.
Waggoner, Beatty and others, 1.
Waggoner, Durham and others, 3.
Waggoner, Electra Texas O. Co., 2.
Richardson, Holmes and others, 1.
Stephens, Humble O. & R. Co., 20.
Waggoner, Quaker O. Co., 1.
Swin, Wood and others, 1.

Wells Drilling

Waggoner, Atlantic O. Prod. Co., 1.
Zipperle Atlantic O. Prod. Co., 1, 3, 4.
Stephens, Barkley and others, 2.
Waggoner, (Sec. 47) Beatty and others, 1.
Schumaker, Brewer and others, 1.
Dill, Bridwell and others, 6.
McCrary, Bridwell and others, 1.
Stephens, Bridwell and others, 8, 9.
Waggoner, Bridwell and others, 1.
Waggoner, Texas Pacific C. & O. Co., 1.
Castlebury, Burton and others, 1.
Zipperle, Burton and others, 1.
Zipperle, Continental O. Co., 5.
Waggoner, Dipon and others, 1.
Waggoner, Herbert O. Co., 1.
Castlebury, Humble O. & R. Co., 3, 13, 14, 15, 17.
Stephens, Humble O. & R. Co., 3, 16, 17, 21.
Waggoner, Humble O. & R. Co., 1-C.
Waggoner, Key and others, 1.
Waggoner, Knight and others, 1, 4.
Waggoner, Kolp and others, 4, 5.
Waggoner, Levy and others, 2, 1 Blk, 4.
Fluhman, Lippard O. Co., 1.
Waggoner, Mattylee Lippard, 1, 2.
Waggoner, McCamey and others, 1.
Richardson, McCamey and others, 6.
Stephens, McCamey and others, 7, 12, 16, 17, 19.
Waggoner, McKanna and others, (1, Sec. 48) (2, Sec. 31.)
Waggoner, McLester O. Co., 1.
Gee, Magnolia Pet. Co., 67.
Piper, Magnolia Pet. Co., 44.
More, Waggoner, Magnolia Pet. Co., 1.
Morris, Maxwell and others, 1.
Waggoner, Murchison and others, 1.
Waggoner, Oxford O. Co., 2.
Key, Panhandle Ref. Co., 1.
Castlebury, Priddy and others, 4, 5, 7.
Bond, Ray and others, 9, 10.
McCrary, Root and others, 1.
Waggoner, Shamrock O. Co., 1.
Murphy, Shipley and others, 1.
Collins, Simms O. Co., 1.
Zipperle, South Vernon O. Co., 1.
Bond, Staley and others, 1.
Castlebury, The Texas Co., 1-B.
Owens, The Texas Co., 1.
Waggoner, The Texas Co., 202.
Flenniken, Texhoma O. & R. Co., 1.
Thomas, Texhoma O. & R. Co., 1.
Waggoner, Upham Co., 1.
Waggoner, Wells and others, 1.
Waggoner, Whibert O. Corp., 1.
Waggoner, Lawson and others, 4, 5.
Bond, Winnipeg O. Co., 7, 8.
McGill, Wood and others, 1.
Rigs, 9; wells drilling, 79; total, 88.

BROWN COUNTY

Rigs

Westermann, Moore and others, 3.

Wells Drilling

Teston, Gillman and others, 2.
Gaines, Mahlstedt Mook O. Co., 4.
Prather, Rhodes and others, 5.
Rigs, 1; wells drilling, 3; total, 4.

REAGAN COUNTY

Rigs

University, Big Lake O. Co., 26.

Wells Drilling

Univeristy, Big Lake O. Co., 16, 17, 19, 22, 23, 24.
University, California Co., 1.
University, Hoffman and others, 1.
University, Texon O. & L. Co., 6 group 1; 7 group 1; 8 group 1; 10 group 1; 11 group 1; 12 group 1; 3 group 2.
Rigs, 1; wells drilling, 15; total, 16.

WILDCATS

Rigs

Throckmorton County—

Rigs

Stacey, Stiles and others, 1.

Wells Drilling

Portwood, Cunningham and others, 1.
Ewalt, Downing and others, 1.
King, Humble O. & R. Co., 1.
Richards, Larkin and others, 1.
Horton, Mitcham and others, 1.
Rogers, McCosland and others, 1.
Martin, Panhandle Ref. Co., 1.
Graham, Red Bank O. Co., 1.
Stubblefield, Riter-Foster O. Co., 1.
Reynolds, Stiles and others, 1.
Kelley, Schimmel and others, 1.
Graham, Texhoma O. & R. Co., 1.
Burkhalter, Smith O. Co., 1.
Smythe, The Texas Co., 1.

Rogers County—

Wells Drilling

Ledrick, Ergle and others, 1.

Hutchinson County—

Rigs

Smith, Dixion Creek O. Co., 2.

Wells Drilling

Perkins, Panhandle Ref. Co., 1.
Bivins, Amarillo O. Co., 2-B.
Shaw, Prairie O. & G. Co., 1.

Potter County—

Wells Drilling

Warrick, Amarillo O. Co., 1.
Bush, Amarillo O. Co., 1.

Carson County—

Wells Drilling

Burnett, American Ref. Co., 1-C.
Burnett, Crosbie O. Co., 2.
Armstrong, Culbertson Bros., 1.
Burnett, Gates O. Co., 1.
Burnett, Magnolia Pet. Co., 1.
Burnett, Silk and others, 4.
Burnett, The Texas Co., 5.
M. C. Burnett, The Texas Co., 2-A, 3.

Gray County—

Wells Drilling

Beavers, Anderson and others, 1.
Combs & Worley, Clark and others, 1.
Combs & Worley, Wilcox O. & G. Co., 1.

Wheeler County—

Rigs

Emhler, Angus and others, 1.
Porter, Whittington and others, 1.

Wells Drilling

Williams, Whittington and others, 3, 4.
Jackson, Texhoma O. & R. Co., 1-A.
Krey, Vaughan and others, 1.

Baylor County—

Wells Drilling

Sievens, Continental O. Co., 1.
Dippery, Duke and others, 1.
Anderson, Grebin and others, 1.
Martin, McCaldin and others, 1.
Young, Strong and others, 1.

Clay County—

Wells Drilling

Scaling, Atlantic City Prod. Co., 1.
Samer, Gwynn and others, 1.
Magnolia Pet. Co., Lone Star Gas Co., 2.
Holloway, Bennett and others, 1.
Sneed, Mitcham and others, 1.
Alcorn, O'Neil and others, 1.

Montague County—

Wells Drilling

Salmon, Daniels and others, 1.
Jones, Humphreys-Boyd, 2.
Howard, Texhoma O. & R. Co., 4.

Grayson County—

Wells Drilling

Anderson, Whitesboro O. & D. Co., 1.
Cannon, The Texas Co., 1.

Denton County—

Wells Drilling

Fortenberry, Gainesville Synd. 1.

Kent County—

Wells Drilling

Kuteman, Greenwood and others, 1.

Shackelford County—

Rigs

Landreth, Phillips Pet. Co., 13, 15.

Wells Drilling

Jetter, Hope Pet. Co., 3, 10.
Moberly, Hope Pet. Co., 1.
Reynolds, Hope Pet. Co., 1.
Moberly, Hyde and others 1.
Moberly, Knight and others, 1.
Kendrick, Landreth Prod. Co., 1.
Moberly, Landreth Prod. Co., 1.
Clausell, McKamra and others, 1.
Compton, Phillips Pet. Co., 1.
Parrish, Phillips Pet. Co., 2.
Poindexter, Phillips Pet. Co., 12.

Palo Pinto County—

Rigs

Cardwell, Hart and others, 2.

Wells Drilling

Smith, Singleton and others, 1.
Strawn Coal Co., Burton and others, 4.
Perkins, Dalton and others, 1.
Cardwell, Hart and others, 1.
Massie, Little Caddo Synd., 2.
Rosmussen, Pender Prod. Co., 1.

Callahan County—

Rigs

Cathey, Dutton and others, 7.

Wells Drilling

Hennessey, Bryson Union O. Co., 1.
Windham, Prewitt and others, 2.
Isenhower, Seaboard O. & G. Co., 3-A.

Mitchell County—

Rigs

A O. Co., Eastland O. Co., 1.
Keynard, Eastland O. Co., 1.

Wells Drilling

Clark, Eastland O. Co., 1.
Keynard, Eastland O. Co., 3.
Scott, Sloan and others, 1.
Smart, Sloan and others, 6, 7.
Adams, Thompson and others, 1.
Elder, California Co., 1, 2 Lease 2.
Miller, West Texas Pet. Co., 4.

Sterling County—

Wells Drilling

Douthit, Co-Operative Leave & Dev. Co. 1.
Durham, Chicago Texas O. & G. Co., 1.
Reynolds, Pettit and others, 1.

Coke County—

Wells Drilling

Mims, Weidler O. Co., 1.

Coleman County—

Well Drilling

Morris, Canyon O. & G. Co., 1.
Spring Creek, Denny and others, 1.

King County—

Rigs

Spiker, Damitza O. Co., 1.

Upton County—

Wells Drilling
Univerity, Reagan and others, 1.
Univeristy, Campbell and others, 1.
Pecos County—
Rigs
Townsite, Quinby and others, 1.
Wells Drilling
Perry, Plymouth O. Co., 1.
Crockett County—
Rigs
University, Red Ball O. Co., 1.
Wells Drilling
Powell, World O. Co., 1.
Brewster County—
Wilson, Green Valley O. Co., 2.
Rigs, 15; wells drilling, 95; total, 110.

N. LOUISIANA-ARKANSAS

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Union Co. ..	88	234,490	5	3	66	201	267
Ouachita Co.	59	25,665	9	2	35	103	138
Nevada ...	2	190	0	0	2	6	8
Stephens ...	1	0	1	0	1	2	3
Bellevue ...	6	47	1	1	1	2	3
Caddo	7	415	1	2	4	21	25
Cott'n Valley	21	3,700	0	0	18	29	47
La. wildcats.	18	0	9	9	13	49	62
Ark. wildcats	12	0	12	0	4	42	46
Total Apr.	214	264,507	38	17	144	455	599
Total Mar.	117	13,071	26	16	106	386	492
Difference.	97	251,436	12	1	38	69	107

COMPLETIONS
UNION COUNTY, ARK.

4-16-15 Calloway, Amerada Pet. Co., 2 15000
4-16-15 Calloway, Amerada Pet. Co., 4 1200
1-16-17 LaGrone, Arkansas F. O. Co., 6 60
6-16-15 Ferguson, Ark. F. O. Co., 4.. dry
17-16-15 Murphy, J. Barnsdall & Foster, 4 500
16-17-17 Pate, Bradley & Cazart, 1 ... dry
8-16-15 Alphin, Broderick & Calvert, 1..2000
9-16-15 Palmer, Clark, J. W., 3 1500
19-16-15 Alphin, Clark, J. W., 3 ..... dry
8-16-15 Bilyew, Coates & Sewall, 1 500
14-16-15 Giller, Crawford & Sebastian, 8 100
3-16-15 Graves, Crawford & Sebastian, 6 3000
9-16-15 Murphy, Cook, Sam, 1 5000
3-16-15 Graves, Crusader O. P. Co., 5 400
31-15-16 Stout Lumber Co., Dyer Bros., 4 50
9-16-15 Palmer Eason et al., 4 300
8-16-16 Childs, Federal Pet. Co., 2 60
16-16-15 Lawton, Federal Pet. Co., A-7.13000
8-16-16 Hodges, Gilliland, W. H., A-2.. 125
7-18-19 Van Hook, Grimes & Jones, 8.. 30
10-16-15 Alphin, J. H. Gulf Refg. Co., 8 300
8-16-15 Berry, Gulf Rfg. Co., 6 ..... dry
5-16-15 Flannigan, Gulf Rfg. Co., 9..2500
6-16-15 Halloway, Gulf Rfg. Co., 2.... 35
5-16-15 Hardy-Murphy, Gulf. Rfg. Co., 7 1200
3-16-15 Hardy-Murphy, Gulf Rfg. Co., 9 800
3-16-15 Hardy-Murphy, Gulf Rfg. Co., 12 1800
4-16-15 Hardy-Murphy, Gulf Rfg. Co., 14 3000
16-16-15 LeCroy, Gulf Rfg. Co., 8..... 400
9-16-15 Murphy, T. C., Gulf Rfg. Co., 2 8000
6-16-16 L. Werner, Gulf Rfg. Co., 29.. 35
5-16-16 L. Werner, Gulf Rfg. Co., 34.. 30
6-16-16 L. Werner, Gulf Rfg. Co., 35.. 20
5-16-16 L. Werner, Gulf Rfg. Co., 38.. 75
3-16-15 Graves, Hutchinson et al, 9..1200
10-16-15 Miller, Hollyfield et al, 3..... 250
3-16-15 Miller, Houston O. Co., 5 4000
10-16-15 Giller, Hollyfield et al, 9.... 45
9-16-15 Flenniken, Humble O. & R. Co. B-2 700
10-16-15 Pate, Humble O. & R. Co., 5..1500
10-16-15,Pate, Humble O. & R. Co., 6.. 750
10-16-15 Pate, Humble O. & R. Co., 7...3000
9-16-15 Murphy, Imperial O. & G. Producing Co., 2 30000
9-16-15 Murphy, Imperial O. & G. Producing Co., 6 10000
8-16-15 Bilyew, Lion O. & R. Co., 2.. 500
8-16-15 D. Murphy, Lion O. & R. Co., 3 2000
10-16-15 Flenniken, Lion O. & R. Co., 5 200
3-11-15 Gray, Lion O. & R. Co., 7.... 2500
4-16-15 Hays, Lion Nat. G. & P. Co., 1..1200
10-16-15 Lawton, Mazda Oil Co., B-1..1000
3-16-15 Fee, Lyles et al, 7 2500
10-16-15 Lawton, Mazda Oil Co., D-1..5000
9-16-15 Murphy, Murphy O. G., 3 5000
9-16-15 Bilyew, Natural G. & P. Co., 5 gas
8-16-15 Murphy, Nat. G. & Pet. Co., 6.4000
9-16-15 J. Murphy, Nat. G. & P., F-2.1000
9-16-15 J. Murphy, Nat. G. & P., F-2.1000
14-16-15 Ballard, Ohio Oil Co., 3 50
9-16-15 S. Murphy, Ohio Oil Co., 3..1800
10-16-15 Pate, Ohio Oil Co. 6.....1500
11-16-15 Giller, Phillips Pet. Co., 9.... 100
11-16-15 Giller, Phillips Pet. Co., 10.. 125
8-16-15 Bilyew, Pure Oil Co., 1 8000
15-16-15 Craig, Pure Oil Co., 11..... 35
7-16-15 Tatum, Ray Drilling Co., 2.. 800
16-16-15 Cook, Ramage, A. H., 2..... 800
10-16-15 Lawton Ramage, A. H., C-4.. 900
14-16-15 Murphy, Richardson, Sam, M-1 50
10-16-15Lawton, Richardson, Sam, 3..8000
9-16-15 Hardy-Murphy, Roxana Pet. Corp., 1 4000
7-16-15 T. D. Murphy, Roxana Pet. Corp., 2 ..... dry
8-16-15 Flenniken, Roxana Pet. Corp., A-1 1000
17-16-15 LeCroy, Rogers et al, 2 ..... dry
6-16-16 Hodges, Rutledge, Trustee, 5.. 120
9-16-15 Murphy, Shreveport Oil Corp., A-1 1200
16-16-15 Cook, Simms Oil Co., 4 ..... gas
2-16-15 J. H. Alphin, Stand. O. Co., 17 65
3-16-15 Hays, Sun Co., 3 1000
9-16-15 Flenniken, Sunny Jim O. Co., 1 30
9-16-15 Flenniken, Sunny Jim O. C., 4.7000
9-16-15 Flenniken, Sunny Jim O. Co., 5 750
9-16-15 Flenniken, Sunny Jim O. Co. 6.1800
3-16-15 Graves, The Texas Co., 7.... 6000
3-16-15 Graves, The Texas Co., 8.....5000
3-16-15 Graves, The Texas Co., 9...10000
8-16-15 Murphy, United Central Oil Corp., 4 5000
3-16-15 Roper, Unity Pet. Co., 7..... 2000
4-16-15 Hays, Wilson Nye, 5 ..... gas

Wells completed	88
Production	234490
Dry	5
Gas	3
Gas production	70,000,000

OUACHITA COUNTY

11-15-17 Elliott, Bray-Hawthorne, 1... dry
26-15-17 Hodges, Clark, H. E. 3..... 45
4-16-15 Murphy, Clark & Melat, 1 ...1800
23-15-17 Elliott, Cumberland Pet. Co., 1 25
27-15-17 Gibson, Eberhardt et al, 1... 25
36-15-17 LaGrone, El Dorado Union Oil Co., 3 25
36-15-17 LaGrone, El Dorado Union Oil Co., 4 40
31-15-16 Forest City Box Co., Ellis & Dumas, 5 125
22-15-16 Cramer, Forest Oil Co., 16 120
26-15-17 Gibson, Freeling Guy, 2 90
4-16-15 Umsted, George & Jones, 4....1500
33-15-15 R. Bennett, Gulf Rfg. Co., 1.. dry
33-15-15 R. Bennett, Gulf Rfg. Co., 3..1200
7-16-16 Burkett, Gulf Rfg. Co., 1.... dry
28-15-16 Hardin, Gulf Rfg. Co., 5..... 50
28-15-16 Hardin, Gulf Rfg. Co., 6..... 50
4-16-15 Hardy-Murphy, Gulf Rfg. Co., 13 5000
32-15-15 B. Goodwin, Gulf Rfg. Co., 6..3000
5-16-15 G. Goodwin, Gulf Rfg. Co., 3.. dry
23-15-17 Reynolds, Gulf Rfg. Co., 5.. dry
26-15-17 Werner, Gulf Rfg. Co., A-12... 25
36-15-17 Werner, Gulf Rfg. Co., A-14.. 40
32-15-16 Werner, Gulf Rfg. Co., 32..... 25
28-15-16 Reeves, Hughes, J. M., 2..... 80
5-16-15 Hinton, Houston Oil Co., 6.. 500
30-15-15 Berg Humble O. & R. Co., B-2 30
6-16-15 Flannigan, Humble O. & R. Co., 5 2500
5-16-15 Umsted, Humble O. & R. Co., 6 1200
5-16-15 Umsted, Humble O. & R. Co., 7 1000
26-15-17 Halton, Hunt et al, B-7..... 40
26-15-17 Halton, Hunt et al, B-8 60
26-15-17 Halton, Hunt et al, B-9..... 75
22-15-17 Myatt, Hunt et al., A-2..... 60
22-15-17 Myatt, Hunt et al, A-7 35
26-15-17 Street, Hunt et al, 2..... 50
27-15-16 Hick, Johnson, D. N., 3..... 50
23-15-17 Wells, Kelly et al., 1 30
4-16-15 Berg, Leon et al., 2 1200
22-15-17 Myatt, Louisiana O. Rfg. Corp., 1 30
22-15-17 Myatt, Louisiana O. Rfg. Corp., 2 30
5-16-15 Umsted, Marine Oil Co., 5 1500
27-15-16 Hardin, Penguin Oil Co., 1.... 50
25-15-17 Berg, J. D. Reynold, 1..... 20
22-15-17 Hildreth, Riggs et al., 1..... dry
22-15-17 Hoffman, Southern Oil Co... dry
30-15-16 Umsted, Standard Oil Co., 13.. gas
27-15-16 Hardin, Sun Co., 5 75
27-15-16 Neely Texas Co., 4 100
34-15-15 Johnson, The Texas Co., 4..... 75
32-15-16 Salmson, The Texas Co., 6.... 35
32-15-16 Salmson, The Texas Co., 7.... 35
31-15-15 Laney, Texas Pac. C. & O. Co., 1 ..... dry
23-15-17 Green, Timber et al., 2..... 75
33-15-16 Berry, Unity Pet. Co., 3..... 70
23-15-17 Riley White et al., 1..... dry
26-15-17 Hodges, Whitington et al, 2.. 45
23-15-17 Green, Whitington et al, 3.... 30
4-16-15 Umsted, Woodley Pet. Co., 3.. 900
4-16-15 Umsted, Woodley Pet. Co., 4..2500

Wells completed	59
Production	25665
Dry	9
Gas	2
Gas production	21,000,000

NEVADA FIELD

10-14-21 Womack, Ames et al, 2..... 150
10-14-21 Womack, Ames et al 2 40

Wells completed	2
Production	190

STEPHENS FIELD, COLUMBIA COUNTY

36-15-20 Watson, Magnolia Pet. Co., 2.. dry

Wells completed	1
Dry	1

COTTON VALLEY

19-21- 9 Coffee, Alabama Pet. Co., 1... 200
24-21-10 Pardee, Alabama Pet. Co., B-3 200
25-21-10 Hope Estate, Crusader Oil Pet. Co., B-15 800
29-21-10 Smith, Derryberry, M. J., A-1.. 100
28-21-10 Bodcau, Humble O. & R. Co., B-13 155
13-21-10 Bodcau, Humble O. & R. Co., B-14 120
26-21-10 Gray, Humble O. & R. Co., 3.. 150
26-21-10 Gray, Humble O. & R. Co., 4.. 200
28-21-10 Gray, Louisiana O. Rfg. Corp., 3 150
21-21-10 Cruchton, Louisiana Rfg. Corp., 2 140
13-21-10 Bodcau, Ohio Oil Co., 18..... 100
15-21-10 Bodcau, Ohio Oil Co., 19..... 130
15-21-10 Bodcau, Ohio Oil Co., 20 240
27-21-10 Bodcau, Ohio Oil Co., 21..... 40
27-21-10 Bodcau, Ohio Oil Co., 22..... 100
28-21-10 Bodcau, Ohio Oil Co., 24 160
28-21-10 Bodcau, Ohio Oil Co., 25..... 115
15-21-10 Cox, Ohio Oil Co., 1..... 260
26-21-10 Gray, Ohio Oil Co., 4..... 150
26-21-10 Gray, Ohio Oil Co., 7..... 150
16-21-10 Sidney, Ohio Oil Co., 1 100

Wells completed	21
Production	3700

BELLEVUE FIELD

34-19-11 Johnson, Dixie Oil Co., 1... dry
15-19-11 Bliss & Wetherbee, Humble Oil & Ref. Co., A-20 10
15-19-11 Roy, Bliss & Wetherbee, Humble O. & Rfg. Co., 28 10
14-19-11 Bliss & Wetherbee, Humble Oil & Rfg. Co., B-4 15
14-19-11 Bliss & Wetherbee, Humble Oil & Rfg. Co., 5 12
23-19-11 Bliss & Wetherbee, Wetherbee, G. W., F-7 ..... gas

Wells completed	6
Production	47
Dry	1
Gas	1
Gas production	5,000,000

CADDO FIELD

13-21-15 Robertson, Dixie Oil Co., 66.. 10
5-20-16 Rives, Gross, Wm., et al, 2.... 60
5-20-16 Rives, Gross, Wm., et al, 3.... 30
14-20-16 Ferry Lake, Gulf Prod. Co. 220 dry
19-17-16 Stringfellow, Scott, A. C., et al, 1 ..... gas
27-21-15 Stiles, Standard O. Co., 170.. 300
14-21-15 Houston Ice & Brewing Co., Tholl Oil Co., 7 15
17-17-16 Hunting Club, Waterman Drlg. Co., 1 ..... gas

Wells completed	7
Production	415
Dry	1
Gas	2
Gas production	13,000,000

LOUISIANA WILDCATS

Bossier Parish—
4-22-11 Holland, Wetherbee, G. W., 1 dry
Caddo Parish—
8-15-22 Huron Land Co., El Dorado Chief Oil Co., 1 ..... dry
1-18-15 Williamson, Richardson, D. C., 1 ..... dry
Claiborne Parish—
13-22- 7 McElwee, El Dorado Chief Oil Co., 1 ..... dry
La Salle Parish—
21-11-2e Urania, Bur Ban Oil Co., 1... dry
21-12-2e Urania, Bur Ban Oil Co., 2... dry
Morehouse Parish—
20-22- 5 Crossett, Natural Gas Prod. Co. 15 ..... gas
Ouachita Parish—
11-19- 4 Fee, Southern Carbon Co., 45 gas
31-19- 5 Fee, Southern Carbon Co., 46 gas
Union Parish—
16-22- 3 James, Simms Oil Co., 1..... dry
9-20-4e Jimmy, The Texas Co., 1.... gas
Webster Parish—
34-23-10 Jordan-Young, Oil Fields Gas Co., 2 ..... gas
34-23-10 Simpson, Oil Fields Gas Co., 1 gas
20-18-10 Mason, Palmer & Blount, 1.. dry
34-23-10 Burrell, Simms Oil Co., 1.... gas
34-23-10 Mynor, Standard O. Co., 1.. gas
25-23-10 Lewin, The Texas Co., 1.... gas
Winn Parish—
5-12-1w McCarty, Galloway & Arrendale, 1 ..... dry

Wells completed	18
Production	0
Dry	9
Gas	9
Gas production	241,500,000

ARKANSAS WILDCATS

Columbia County—
1-19-22 W. E. Hardy, Arkansas Fuel Oil Co., 1 ..... dry
30-18-19 Phil Lindsay, Magnolia Pet. Co., 1 ..... dry
Drew County—
5-13- 8 Harrison, Rhodes et al, 2.... dry
Lafayette County—
24-15-23 Bodeau-Kitchens, Humble Oil & Rfg. Co., 1 ..... dry
Miller County—
12-20-28 Thomas, Nigh, Dr. F. F. et al 1 ..... dry
33-14-28 Thompson, Wadley, J. K., 1.. dry
Nevada County—
12-15-23 Snell, Ganell et al, 1 ..... dry
Ouachita County—
33-14-19 Allen-Currey, Gossett, et al. 1 dry
16-14-18 S. A. Graves, Reynolds & Thompson, 1 ..... dry
26-14-17 Jones, Sid Umsted, 1..... dry
Union County—
1-18-17 Johnson, Falls et al. 1 ..... dry
36-19-14 Murphy, Jones & Ganzell, 1.... dry

Completions	12
Dry	12

UNION COUNTY, ARKANSAS
Rigs

1-16-17 L. Werner, Arkansas Drlg. Co., 3.
1-16-17 LaGrone, Arkansas F. O. Co., 8.
33-16-15 Burton, Arkansas F. O. Co. 1.
3-19-15 Cullens, Arkansas F. O. Co., 11.
8-16-16 Murphy, Arkansas F. O. Co., 4.
12-16-16 Houston, Baggett et al, 1.
21-16-15 Jones, Belmont et al, 1.
7-16-16 Carroll, Chambles Drlg. Co., 1.
9-16-15 Palmer, J. W. Clark, 4.
9-16-15 Murphy, Cook, Sam, 2.
3-16-15 Graves, Crawford & Sebastian, 7.
3-16-15 Graves, Crusader O. Prod. Co., 8
3-16-15 Lyell, Crusader O. Prod. Co., 4.
10-16-15 Lawton, Federal Pet. Co., A-11.
4-16-15 Hardy, Gulf Rfg. Co., 23.
3-16-15 Graves, Hickman et al, 1.
3-16-15 Miller, Houston Oil o., 6.
3-16-15 Miller, Houston Oil Co., 7.
9-16-15 Murphy, Imperial O. & G. Prod. Co., 5.
16-16-15 Cook, Jones, E. M., 4.
9-16-15 Murphy, Keens & Woolf, 3.
8-16-15 Bilyew, Lion O. & R. Co., A-1.
10-16-15 Flenniken, Lion O. & R. Co., 6.
3-16-15 Graves, Lion O. & R. Co., 8.
4-16-15 Hays, Lion O. & R. Co., 3.
10-16-15 Lawton, Lion O. & R. Co., B-3.
7-16-15 Murphy, Lion O. & R. Co., A-6.
8-16-15 Murphy, Lion O. & R. Co., G-2.
9-16-15 Murphy, Lion O. & R. Co., H-2.
9-16-15 Hardy-Murphy, Lion O. & R. Co., 2
9-16-16 Hardy-Murphy, Lion O. & R. Co., 3.
13-16-17 Campbell, Magnolia Pet. Co., 5.
35-16-15 Murphy, N. J., Magnolia Pet. Co., 1
12-16-17 Scott, Magnolia Pet. Co., 2.
17-16-15 Murphy, Marr & Wood, 2.
8-16-15 Bilyew, Murdock et al, 1.
8-16-15 Bilyew, Murdock et al, B-1.
10-16-15 Lawton, Natural Gas & Pet. Co., C-2.
9-16-15 Murphy, Ohio Oil Co., 6.
9-16-15 Murphy, Ohio Oil Co., 7.
10-16-15 Pate, Ohio Oil Co., 9.
16-16-15 Edwards, Owen Trustee, 2.
6-16-15 Ferguson, Parrish et al., 3.
10-16-15 Flenniken, Roxana Pet. Corp., 5.
9-16-15 Hardy, Roxana Pet. Corp., 4.
16-16-15 Cook, Simms Oil Co., 8.
16-16-15 Cook, Simms Oil Co., 9.
5-16-15 Saxon, Smitherman-McDonald, B-4.
4-16-15 Hardy, Standard Oil Co., 7.
10-16-15 Hardy, Standard Oil Co., 17.
9-16-15 Hardy, Standard Oil Co., 18.
10-16-15 Hardy, Standard Oil Co., 20, 22.
4-16-15 Hardy, Standard Oil Co., 23, 24, 25.
9-16-15 Hardy, Standard Oil Co., 27.
3-16-15 Hays, Sun Oil Co., 11.
3-16-15 Alphin, The Texas Co., 8.
3-16-15 Calloway, The Texas Co., 10, 11.
7-16-16 Langley, The Texas Co., 1.
14-16-15 E. G. Murphy, The Texas Co., 2.
5-16-15 Wingfield, Thurman, et al., 1.
14-16-15 Craig, United Central Oil Corp., 6.
10-16-15 Lawton, Unity Pet. Co., 2.

Wells Drilling

4-16-15 Fee, Alphin, J. H., 1.
4-16-15 Calloway, Amerada Pet. Corp., 3.
6-16-15 Flenniken, Amerada Pet. Corp., 5.
3-16-15 Lyell, Amerada Pet. Corp., 1, 5, 6.
6-16-15 Ferguson, Arkansas Fuel Oil Co., 5.
11-16-15 Alphin, Arkansas Fuel Oil Co., 5.
8-16-16 Murphy, Arkansas Fuel Oil Co., 3.
1-16-17 Scott, Arkansas Fuel Co., 1, 2.
7-16-15 Hatfield, Arkrado Oil Co., 5.
10-16-15 Lawton, Bailey & Trimble, 3.
1-16-16 Parkerson, Bristol, R. A., 1.
8-16-15 Murphy, Broderick & Calvert, A-3.
5-16-15 Wingfield, Carrigan et al., 1.
17-16-15 Cook, J. W. Clarke, 6.
15-16-15 Wells, Clark & Melat, A-2.
8-16-16 Bilyew, Coates & Sowell, 1, 2.
3-16-15 Graves, Crawford & Sebastian, 5.
6-16-15 James, Crawford & Sebastian, 6.
10-16-15 Lawton, Crosbie, J. E., A-1.
3-16-15 Graves, Crusader Oil Prod. Co., 1
10-16-15 Lawton, J. E. Crosbie, A-3, C-5.
3-16-15 Lyell, Crusader Oil Prod. Co., 4.
17-16-15 LeCroy, Dale, H. L., 2.
7-16-15 Tatum, Daniels Chal., 3.
4-19-15 Bradley, Doern et al., 1.
9-16-15 Palmer, Easton et al, 1, 2, 3.
10-16-15 Lawton, Federal Pet. Co., A-10.
10-16-15 Lawton, Federal Pet. Co., B-6, B-7.
8-16-16 Childs, Federal Pet. Co., 4.
10-16-15 Lawton, Federal Pet. Co., A-9.
7-18-14 Van Hook, Grimes & Jones, 4.
10-16-15 Alphin, J. H., Gulf Rfg. Co., 9.
8-16-15 Berry, Gulf Rfg. Co., 7, 8.
16-16-15 LeCroy, Gulf Rfg. Co., 3, 4, 6.
5-16-15 Hardy-Murphy, Gulf Rfg. Co., 11.
3-16-15 Hardy-Murphy, Gulf Rfg. Co., 21.
4-16-15 Hardy-Murphy, Gulf Rfg. Co., 19.
8-16-15 Murphy, Gulf Rfg. Co., 4.
3-16-15 Murphy, Gulf Rfg. Co., 17, 18.
9-16-15 Murphy, Gulf Rfg. Co., 8, 11, 12.
5-16-16 Werner, Gulf Rfg. Co., 31.
3-16-15 Graves, Hickman et al., 10.
6-16-15 McGraw, Higgins Oil & Fuel Co., 1
10-16-15 Giller, Hollyfield et al, 3.
11-16-15 Giller, Hollyfield et al, 10.
8-16-15 Parks, Houston Oil Co., 1.
3-16-15 Flenniken, Humble Oil Co., 4.
9-16-15 Flenniken, Humble O. & R. Co., B-3, B-4, B-5.
3-16-15 Goodwin, Humble Oil Co., B-1.
10-16-15 Pate, Humble Oil Co., 8.
9-16-15 Murphy, Imperial Oil & Gas Prod. Co., 3, 4, 5.
1-16-17 Anderson, Johnson Drilling Co., 1.
7-16-15 Tatum, Jones, 1.
16-16-15 Cook, Jones, E. M., 1, 2, 3.
9-16-15 Murphy, Keene & Woolf, 1, 2.
3-16-15 Williams, Kinnebrew et al, 5.
12-16-15 Houston, Laurel Oil & Gas Co., 1.
31-16-14 Davis, Liberty Oil Co., 1.
10-16-15 Lawton, Lion O. & R. Co., A-6, A-6, B-3.
8-16-15 Murphy, Lion O. & R. Co., E-1, E-2, G-1.
9-16-15 Murphy, Lion O. & R. Co., H-1, 4
3-16-15 Fee, Lyles et al, 7.
7-16-16 Freeman, Magnolia Pet. Co., 1.
16-16-16 Harris, Magnolia Pet. Co., 2.
19-16-15 Powell, Magnolia Pet. Co., 4.
1-16-17 Stout Lumber Co., Magnolia Pet. Co., 2.
10-16-15 Lawton, Mazda Oil Co., B-2, B-2.
8-16-15 Hill, McMurray, R. J., 1.
8-16-15 Bilyew, Murdock et al, 4.
9-16-15 Murphy, Murphy O. G. 2, 4.
9-16-15 Bilyew, Natural Gas & Pet Co., 1, 2, 3, 4.
8-16-15 Murphy, Natural Gas & Pet. Co., 7, D-3.
17-16-15 Murphy, Natural Gas & Pet. Co., A-3, B-3.
9-16-15 Murphy, Natural Gas & Pet. E-1, F-3.
5-16-15 Oran, Natural Gas & Pet. A-2, A-3, B-2.
9-16-15 Murphy, Ohio Oil Co. 5.
10-16-15 Pate, Ohio Oil Co., 7, 8.
7-16-15 Murphy, Page et al, 5, 6.
6-16-15 Ferguson, Parrish et al, 3.
6-16-15 Sandford, Penguin Oil Co., 3.
11-16-15 Alphin, Phillips Pet. Co., 5.
10-16-15 Giller, Phillips Pet. Co., 8.
8-16-15 Bilyew, Pure Oil Co., 2, 3, 4.
16-16-15 Dumas, Pure Oil Co., 1.
16-16-15 Cooke, Ramage, A. H., 2.
16-16-15 James, Ramage, A. H., 7.
7-16-15 Tatum, Ray Drilling Co., 3.
9-16-15 Bilyew, Roxana Pet. Corp., 1, 2.
17-16-15 LeCroy, Rogers et al, 1, 3.
9-16-15 Bilyew, Roxana Pet. Corp., 1, 2, 3, 4.
5-16-15 Flenniken, Roxana Pet. Corp., B-1, B-2, B-3, B-4.
10-16-15 Flenniken, C. Roxana Pet. Corp., A-1, A-2, A-3.
8-16-15 Flenniken, Roxana Pet. Corp., C-1, C-3, C-4.
9-16-15 Hardy-Murphy, Roxana Pet. Corp., 2, 3.
9-16-15 Murphy, Shreveport Oil Corp., B-1, B-2.
16-16-15 Cook, Simms Oil Co., 1, 6.
23-15-16 Hicks, Smitherman-McDonald, 1.
3-16-15 Alphin, Standard Oil Co., 18, 20.
9-16-16 Hardy, Standard Oil Co., 3.
4-16-15 Hardy, Standard Oil Co., 5, 6.
10-16-15 Hardy, Standard Oil Co., 21.
6-16-15 McClanahan, Standard Oil Co., 11.
16-16-15 Cook, Staves et al., 1.
9-16-15 Murphy, Stewart, D. N., 1, 2.
6-16-15 Hatfield, Sun Co., 5.
3-16-15 Hays, Sun Co., 8, 9, 10.
5-16-15 Flenniken, Sun Oil Co., 4, 5, 6.
3-16-15 Alphin, The Texas Co., 6, 7.
4-16-15 Calloway, The Texas Co., 3, 4, 5, 6.
3-16-15 Graves, The Texas Co., 6.
4-16-15 Hays, The Texas Co., 4, 5, 7.
7-16-16 Howard, The Texas Co., 1.
17-16-15 Vestal, Tidal Osage Co., 5.
8-16-15 Murphy, United Central Oil Corp., 3.
3-16-15 Roper, Unity Pet. Co., 8, 9, 10.
10-16-15 Milner, Unity Pet. Co., 2.
16-16-14 Goodwin, Ward et al, 1.
11-16-15 Hicks, Ward, et al 1.
22-16-15 Adcock, Webb Oil Corp., 1.
7-16-16 McGraw, Wetherbee et al, 1.
10-16-15 Lawton, Winger et al 1.
1-18-17 Hodges, Wright et al, 2.

Shut Down

14-19-11 Union Saw Mill, Beery et al 1.
25-16-16 Burton, Cherokee Pet. Co., 7.
9-16-15 Palmer, J. W. Clark, 5.
36-17-16 Springer, Coates & Sowell, 1.
13-17-15 Ezell, Dellmeyer, W. A. 1.
3-16-15 Roper, Unity Pet. Co., 6.

Rigs, 66; wells drilling, 201; total, 267.

OUACHITA COUNTY, ARKANSAS
Rigs

22-15-17 Wells, Atlantic Oil Prod. Co., B-2, B-5.
32-15-15 Rhoten, Bailey Murray Oil Co., B-1, B-2.
20-15-16 Minor, Boger et al, 2.
32-15-16 Myar, Gray et al, 5.
5-16-15 Goodwin, Gulf Rfg. Co., A-6.
34-15-15 Scott, Gulf Ref. Co. 1.
33-15-15 Unsted, Gulf Rfg. Co., A-8.
32-15-16 Werner, Gulf Rfg. Co., 36.
21-15-17 Halton, H. L. Hunt et al, D-1.
21-15-17 Pace, H. L. Hunt et al, 1.
6-16-15 McClannahan, Imperial Oil & Gas Prod. Co., 6.
34-15-15 Farris, D. N. Johnson, 4.
4-16-16 Berg, Leon et al, 6.
4-16-15 Hays, Lion O. & R. Co., 4.

15-15-17 Bettie Clawson, Magnolia Pet. Co., 3.
5-16-16 Umsted, Marine Oil Co., 6, 7.
5-16-16 Smith, McCorkle et al, B-2.
15-15-17 Riley, Murdock et al, 2.
22-15-17 Hill, Natural Gas & Pet. Co., B-1.
5-16-15 Snyder, Owenwood Oil Corp., 5.
24-15-15 Hardin, Penguin Oil Co., 4.
27-16-16 Umsted, Penguin Oil Co., 2.
4-16-15 Polk, C. W. Robinson, 1.
5-16-15 M. W. Hardy, Standard Oil Co., 26.
5-16-15 Umsted, Standard Oil Co., 17.
12-15-15 Joyce, Sure Oil Corp., 2.
25-15-16 Hughe, Sutton et al, 10.
25-15-16 Solmson, The Texas Co., 8.
5-16-16 Hill, C. W. White, 1.
5-16-16 Fee, Wingfield et al, 1.
5-16-16 Umsted, Wingfield et al, 3.
4-16-15 Umsted, Woodley Pet. Co., 6.
4-16-15 Myatt, Zoller & Brown, 1.

Wells Drilling

4-16-15 Calloway, Amerada Pet. Corp., 5.
14-15-15 Snyder, Arkansas Fuel Oil Co., 4, 5.
13-15-17 Copenhaven, Bray-Hawthorne, 1.
15-15-19 Wesson, Buffalo Oil Co., 1.
26-15-17 Shirey, H. E. Clarke, 2.
26-15-17 Smith, H. E. Clarke, 4.
4-16-15 Murphy, Clark & Melat 2.
23-15-17 Reynolds, Cumberland Pet. Co., 6.
24-15-15 Joyce, Dashko, et al., 2.
4-16-16 Umsted, El Dorado Union Oil Co., 2.
26-15-16 Arnold, Forest Oil Co., 1.
26-15-16 Lewis, Forest Oil Co., B-2.
26-15-16 Minor, Forest Oil Co., 5.
26-15-17 Gibson, Guy Freeling, 3.
4-16-15 Umsted, George & Jones, 2.
4-16-15 Umsted, George & Jones, 5.
26-15-16 Neely, Gilles et al., 2.
26-15-17 LaGrone, Gilliland Oil Co., S-6.
26-15-16 Myar, Gilliland Oil Co., S-5.
26-15-16 Neely, Gladys-Belle Oil Co., 1.
26-15-16 Fincher, Hall and Williams, 1.
26-15-16 Myar, Gray et al, 4.
26-15-16 Fincher, Hall and Williams, 1.
26-15-17 Riley, Hammon et al, 1.
14-16-17 Elliott, Hemphill et al, 1.
26-15-16 Fincher, Hickory Oil Co., 2.
26-15-16 Murphy, Holloway et al, 1.
5-16-17 Berg, Home Rfg. Co., 1.
21-15-15 B. T. Laney, Houston Oil Co., 10.
3-16-15 Williams, Howell et al, 2.
26-15-15 Berg, Humble O. & R. Co., B-3.
4-16-15 Flannigan, Humble O. & R. Co., 6.
4-16-15 Murphy, Humble O. & R. Co., 3.
4-16-15 Umsted, Humble O. & R. Co., 8.
23-15-17 Myatt, H. L. Hunt et al., A-3.
4-16-15 McClanahan, Imperial Oil & Gas Prod. Co., 5.
23-15-16 Hardin, Invaders Oil Co., 2.
5-16-16 Hill, Invaders Oil Co., 1.
5-16-16 Miller, Invaders Oil Co., 5.
19-15-17 Fincher, D. N. Johnson, 1.
27-16-16 Neely, W. R. Keever, 1.
26-15-15 Church, Koury et al, 1.
27-15-17 Bland, La. Oil Rfg. Corp., 1, 2.
4-16-15 Berg, Leon et al, 3, 4, 5, B-1.
4-16-15 Hays, Lion O. & R. Co., 2.
13-15-17 Bettie Clawson, Magnolia Pet. Co., 2.
15-15-19 Hammond, Magnolia Pet. Co., 7.
5-16-15 J. Goodwin, Magnolia Pet. Co., 1.
4-16-15 Hays, Marine Oil Co., 4, 5.
15-15-17 Smith, McCorkle et al, A-2.
26-15-16 McKenzie, J. H. Meek, Receiver, 9.
26-15-16 Neely, Miles et al., 2.
23-15-17 Riley, Murdock et al, 1.
27-15-16 Hardin, Penguin Oil Co., 2, 3.
4-16-15 Umsted, Penguin Oil Co., 1.
26-15-15 Cunningham, Pure Oil Co., 2.
15-15-17 Jeffus, Ramage et al, 4.
5-16-17 Berg, J. D. Reynolds, 2.
13-16-17 Berg, J. D. Reynolds, 1.
15-15-17 Ward, J. D. Reynolds, 5.
14-15-15 Snyder, Roxana Pet. Corp., 3, 4.
4-16-15 Umsted, Roxana Pet. Corp., A-1, A-2, 3, 4.
4-16-15 Umsted, Shreveport Oil Corp., 2, 3.
5-16-15 Berg, Simms Oil Co., E-4.
26-15-16 Berry, Sinclair Oil Co., 1.
27-15-17 Shirey, J. S. Smith, C-1.
13-15-15 R. Bennett, Standard Oil Co. of La., 3.
4-16-15 M. W. Hardy, Standard Oil Co. of La., 11, 13.
14-15-15 George Powell, Standard Oil Co. of La., 2.
12-15-15 Umsted, Standard Oil Co. of La., 7, 13, 14, 15.
5-16-15 Hill, Sure Oil Co., 1.
14-15-15 Snyder, Sure Oil Co., 2.
26-15-16 Hughes, Sutton et al, 8, 9.
26-15-17 Burton, Swartz, et al., 2.
26-15-16 Neely, The Texas Co., 2, 3.
23-15-17 Reynolds, The Texas Co., 7.
26-15-16 Solmson, The Texas Co., 5.
11-15-15 Laney, Texas & Pacific Coal & Oil Co., 5.
4-16-15 Fee, Sid Umsted, 1.
26-15-15 Berry, Unity Petroleum Co., 4.
26-15-17 Anderson, Whittiken et al, 6.
27-15-17 Berg, O. F. Whittaker, 1.
5-16-15 Goodwin, Wilson Pet. Co., 1.
4-16-15 Umsted, Wingfield et al, 1, 2.
4-16-15 Umsted, Woodley Pet. Co., 5.
Rigs, 35; wells drilling, 103; total, 138.

NEVADA COUNTY
Rigs

18-14-21 Womack, Autrey Oil Co., 3.
2-14-21 Walters, Greason et al, 1.

Wells Drilling

10-14-21 Womack, Ames et al, 4.
10-14-21 McKinney, Greason et al, 1, 2.
10-14-21 Drake, Smitherman-McDonald, 3.
10-14-21 Womack, Smitherman-McDonald, 3.
10-14-21 McKinney, Zing et al, 1.
Rigs, 2; wells drilling, 14; total, 16.

ARKANSAS WILDCATS
Rigs

15-17-22 Gantt, Maier, F. R. et al., 1.
15-13-15 Ogle, McClintock & Goodka, 1.
15-13-24 Bodcau, Estes et al, 1.
22-14-26 Gillespie, Munn Oil & Gas Co., 1.

Wells Drilling

1-13-22 Hardy, Arkansas Fuel Co., 2.
6-16-19 McClurkin, Transcontinental Oil Co. 1.
1-16-19 Williams, Virgil Heath, Trustee, 1.
4-16-21 Bodcau, Wingfield & Mitchell, 1.
10-13- 6 Karnes, Graves et al., 1.
13-13- 6 Trotter, King & Wilson, 1.
25-11-24 Clarke, Wooten, J. G., 1.
11-15-22 Bodcau-Riggins, Lewisville, 1.
2-16- 4 Red River Co., Kensaw, Pet. Co., 2.
11-12-13 Bader, McIntire et al 1.
14-14-21 Womack, Zing et al, 2.
4-15-14 Chandler, Magnolia Pet. Co., 1.
11-15-12 Teele, Mathews et al, 1.
16-15-18 Wilson, E. M. Jones, 1.
17-12-15 Eagle Lumber Co., El Dorado Union Oil Co., 1.
15-13-19 Allen, Langston et al, 1.

Shut Downs

23-18-23 Robinson, Brown et al, 1.
24-17-22 Sauter, Hargis et al, 1.
30-19-18 Hays, Hosey & McDonald, 1.
18-17-22 Sorrell, Johnson et al, 1.
29-19-20 Peter Doss, Ky-Arkansas Pet. Co. 1.
20-16-12 Watts, Miller et al, 1.
14-18-21 Davis, Phillips et al, 1.
7-19-19 Emerson, Russell & Kent, 1.
35-18-19 Duffer, Smith & Compton, 1.
22-13- 7 Fee, Stenke et al, 1.
8- 6-11 Pike, Haley & Evans, 1.
27-21-27 Hempstead Co., Grassy Lake Oil Association, 1.
17-11-25 Nichols, Hempstead Oil Co., 1.
7- 3-10 Hingley, De Cou Oil Co., 1.
3- 9- 8 Fee, Camden et al, 1.
15-13-29 Goodrin Lumber Co., Gaines et al, 1
2-13-31 Allen, Grote et al, 1.
10-11-31 Hawkins, Jonhson et al, 1.
36-15-27 Wiseman, Coplen et al, 1.
2-15-16 Fee, Gillespie, T. J. et al, 1.
30-14-20 Phillips, Ouachita Valley, 1.
16-14-21 Butcher, Steele & Sandlin, 1.
22-10-23 Graves, Zing, et al., 1.
36-12- 9 McQuiston, Rhoden et al, 1.
26-16-13 Freeman Smith, Harris & Bickley, 1.
35-10-20 Burroughs, Southern Drilling Co. 1.
Rigs, 4; wells drilling, 42; total, 46.

COTTON VALLEY DISTRICT
Rigs

24-21-10 Pardee, Alabama Pet. Co., A-4, B-2.
24-21-10 Bodcau, Humble O. & R. Co., B-16.
28-21-10 Bodcau, Humble O. & R. Co., B-19.
25-21-10 Weaver Brothers, Humble Oil Co., 1.
19-20-10 Ambrose, Kennedy et al, 1.
27-21-10 Jackson, Louisiana O. Rfg. Co., 1.
28-21-10 Nelson, Louisiana O. & Rfg. Co., 3.
28-21-10 Coyle, Moffat & Murphy, 3.
22-21-10 Bank, C. V., Ohio Oil Co., 2.
15-21-10 Bodcau, Ohio Oil Co., 27.
27-21-10 Bodcau, Ohio Oil Co., 31.
26-21-10 Gray, Ohio Oil Co., 8.
26-21-10 Gray, Ohio Oil Co. 9.
27-21-10 Hodges, Ohio Oil Co., 11.
15-21-10 Hodges, Ohio Oil Co., 1.
23-21-10 Holloway, Ohio Oil Co., 2.
28-21-10 Gleason, Tidal Oil Co., 2.

Wells Drilling

25-21-10 Hope, Crusader Oil Prod. Co., B-16.
24-21-10 Hope, Crusader Oil Prod. C. B-17.
15-21-10 R. R. Cox, Fortuna Oil Co., 1.
25-21-10 A. J. Hodges, Gulf Rfg. Co., A-1.
28-21-10 Bodcau, Humble O. & R. Co., B-18.
26-21-10 Fray, Humble O. & R. Co., 5, 6, 7.
13-21-10 Bodcau, Louisiana O. & R. Co., 2.
28-21-10 Gray, Louisiana O. & R. Co., 5, 6.
15-21-10 Bodcau, Ohio Oil Co., 26.
28-21-10 Bodcau, Ohio Oil Co., 28.
27-21-10 Bodcau, Ohio Oil Co., 29, 30.
15-21-10 Cox, Ohio Oil Co., 2.
26-21-10 Gray, Ohio Oil Co., 2, 4, 5, 6, 8, 9.
26-21-10 Gray, Woodley Pet. Co., 1.
26-21-10 Gray, Woodley Pet. Co., 2.

Shut Down

13-21-10 Bodcau, Humble O. & R. Co., B-5.
15-20-10 Hortman, McDowell et al, 1.
28-21-10 Miller, Moffat & Murphy, 1.
15-21-10 Cox, Ohio Oil Co., 1.
8-20- 9 Bible, Stack & Eggers, 1.
Rigs, 18; wells drilling, 29; total, 47.

CADDO PARISH
Rigs

15-21-15 Weiss, Odell & Lawton, 3.
12-21-15 E. K. Smith, Ohio Oil Co., 17.
23-22-15 Levee Board, Ricketts, 1.
27-21-16 Stiles, Standard Oil Co., 171.

Wells Drilling

30-19-15 Nickerson, Arkansas Caddo Oil Co., 1.
27-22-15 Jolley, Dixie Oil Co., 1.
24-21-15 W. B. & L. L. Noel, Dixie Oil Co., B-1.
13-21-15 Robertshaw, Dixie Oil Co., 65.
5-20-15 Doan-Thigpen, Fortuna Oil Co., 14.
8-20-15 Levee, Fortuna Oil Co., 2.
23-21-15 Robertshaw, Fortuna Oil Co., 10.
14-20-16 Ferry Lake, Gulf Rfg. Co., 69.
16-20-16 Ferry Lake, Gulf Rfg. Co., 222.
7-21-14 E. K. Smith, Ohio Oil Co., 16.
24-22-15 Caddo Mineral Land Co., Lewis Oil Corp., 6.
14-21-15 Murray, McGoldrick et al, 6.
7-21-14 E. K. Smith, Ohio Oil Co., 16.
15-15-12 Hutchinson, Sand Elm Grove, 1.
3-20-16 Russell, Sand Elm Grove, 10.

Shut Down

13-21-15 Robertshaw, Dixie Oil Co., 53.
7-21-15 Burke, Reed et al, 1.
9-20-16 Jeems Bayou & Hunting & Fishing Club, Reynolds Oil & Gas Co., 4.
22-23-16 Rodessa Oil & Light Co., Rowe-Daniels et al, 1.
11-23-16 Pitts, Stith B. T. Trustee, 1.
15-20-16 Federal Jeems Bayou, The Texas Co., 1.
Rigs, 4; wells drilling, 21; total, 25.

LOUISIANA WILDCATS
Rigs

8-18-12 Finuf, Best Oil Co., 1.
18-17-11 Murff, Corbet et al, 1.
22-19-11 G. W. Smith, Olinstead et al, 2.
24-21-15 State, Dixie Oil Co., 5.
5-21- 6 Heard, Clark & Melat, 1.
31-13-11 Willie Williams, Gulf Rfg. Co., C-18.
28-11-2e Urania, Helen & Burch, 1.
10-10-2e Urania, Imperial Oil & Gas Co., 1.
7-10-2e Urania, Jones et al, 2.
19-10-2e Urania, G. W. Zugin et al, 1.
7-18-2w Richardson, Ruston Drlg. Co., 1.
1-19-4e Central, Palmer Corp., 1.
21-20- 4 Grayling, The Texas Co., 3.

Wells Drilling

30-17- 6 Bryan, Roxana Pet. Corp., 1.
3-18-12 Atkinson, Roger et al, 2.
28-19-11 McDade, Osborne et al, 2.
8-16-15 Simpson, Flournoy, Trustee, 1.
17-18-16 Mitchell, Fortuna Oil Co., 1.
8-19-16 Louisiana Live Stock Co., Haynes Brothers, 1.
8-17-16 Hunting Club, Waterman D. D. Co., 2.
23-19-14 McVea, Woodley & Collins, 1.
22-19- 5 Fields, Claiborne Lincoln Syndicate, 3.
5-21- 6 Heard, Clark & Melat, 1.
7-19- 5 J. H. Cox, Triangle Drilling Co., 1.
8-20- 5 Oakes, Woodley & Collins, 1.
32-12-15 Alexandria, Fortuna Oil Co., 1.
22-11-12 Patterson-Robinson, Ulrey, L. V., 1.
14- 7-1w Ball, Finn Construction Co., 3.
14- 7-1w Selmer Lumber Co., Grant Parish Co., 1.
6-12-11 Christine, The Texas Co., 30.
13-14-4w J. H. Rhymes, Big Chief Oil Co., 1.
23-10-1e Harper, Gould & Monroe Drlg. Co., 1.
22-11-2e Urania, Gulf Rfg. Co., A-1.
18-10-2e Urania, Urania Pet. Co., 1.
4-18-4w Dudley, Gulf Rfg. Co., 1.
15-22- 5 Crossett, Natural Gas Prod. Co., 16.
27-10-10 Durr, C. M. Roy, R. O., 1.
24-18-2e Goodwin, Dickson & Frue, 1.
12-19-4e Potts, Palmer Corp., 2.
6-16-5e Jones, White J. P. et al, 1.
8- 7-12 Bowman, H. L. Co., Emlet, L. M., 4.
9- 7-12 Bowman, Emlet L. M., 5.
8- 5-12 Walker, E. A., Flo-La. Oil Co., A-1.
6-19-2e Feazel, Jones & Walker Oil Co., 1.
13-22-3w Henderson-Bennett, Roxana Pet. Corp., 1.
7-20-4e James-Miller, Ruston Drlg. Co., 1.
9-20-4e Jimmy, The Texas Co., 1.
12-20- 4 Smith-Russell, Thrift Oil & Gas Co., 1.

Shut Down

31-21-11 Rhodes, Coker et al, 1.
3-18-12 Atkinson, Corbet et al, 1.
23-19-11 B. & W. Fee, Wetherbee, F-6.
10-18-16 Sharp, Brewer & Sewall, 1.
21-14-4e Fee, Culver, et al., 1.
20-21- 8 Aubry, Block Oil & Gas Co., 2.
36-11-14 Pollock, Greyhound Syndicate, 1.
1- 7-1w Ball, Grant Parish Pet. Co., 2.
22-10-2e Urania, Columbia Oil & Gas Co., 1.
18-10-2e Urania, Urania Pet. Co., 6.
13-20-3w Barrett, Buckner et al 1.
13-20-4e Perry, McKenzie et al, 1.
5-12-1w McCarty, Calloway & Arrendale, 1.
6-10-2w E. Eagles, Hall, J. R. 1.
Rigs, 13; wells drilling, 49; total, 62.

GULF COAST

Summary of Field Operations

Dist.—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Batson	7	105	2	0	0	4	4
Blue Ridge	2	2,400	0	0	2	1	3
Big Creek	4	0	4	0	0	7	7
Barber Hill	0	0	0	0	0	1	1
Damon Mound	1	15	0	0	0	1	1
Edgerly (La.)	2	600	1	0	0	2	2
Goose Creek	8	865	3	0	2	9	11
Humble	3	335	1	0	1	5	6
Hull	15	14,060	1	0	3	21	24
Jennings (La.)	0	0	0	0	0	3	3
Markham	1	0	1	0	2	2	4
Orange	17	4,052	3	0	3	10	13
Pierce Jct.	1	0	1	0	0	2	2
Spindletop	6	345	1	0	0	1	1
Saratoga	4	67	0	0	2	5	7
Sour Lake	15	149	3	0	2	4	6
South Liberty	27	21,275	6	0	21	43	64
Vinton (La.)	4	110	2	0	1	11	12
W. Columbia	5	135	2	0	1	2	3
Lockport (La.)	0	0	0	0	0	4	4
Miscellaneous	8	0	8	0	35	18	53
Total Apr.	121	44,513	39	0	75	156	231
Total Mar.	120	67,503	30	0	58	157	215
Difference	10	22,990	9	0	17	1	16
Southwest Fields—							
Luling	3	700	1	0	4	2	6
Laredo district	8	455	0	3	7	3	10
Somerset	0	0	0	0	3	1	4
Calliham	2	0	0	2	2	1	3
Rockdale-Minerva	0	0	0	0	3	2	5
Jim Hogg County	7	1,200	0	1	10	4	14
Lockhart	11	8,670	2	0	9	9	18
Miscellaneous	0	0	0	0	10	40	50
Total Apr.	21	11,025	3	6	48	62	110
Total Mar.	29	4,590	2	4	25	75	100
Difference	2	6,435	1	2	23	13	10
Grand total April	152	55,538	42	6	123	218	341
Grand total March	149	72,093	31	4	83	232	315
Difference	3	16,555	11	1	40	14	26

WELLS COMPLETED

BATSON

Milhome, S. R. Buchanan 81 10
Milhome, S. R. Buchanan 82 10
Fee, Paraffine Oil 39 5
Davis, Ada Bell Oil 93 ..... dry
Davis, Ada Bell Oil 94 ..... dry
Paraffine, Acorn Oil 54 5
Hodges, Anderson & Munson 3 75
Wells completed 7
Production 105
Dry 2

BLUE RIDGE

Blakely, Gulf Prod. 10-C 2000
Invincible, Gulf Prod. 3 400
Wells completed 2400

BIG CREEK

Davis, Gulf Prod. 17 ..... abd
Davis, United Sulphur 7, 18 ..... abd
Wheat, Gulf Prod. 9 ..... abd
Wells completed 4
Abandoned 4

DAMON MOUND

Bryan, Hamm & Co. 3 15
Wells completed 1
Production 15

EDGERLY

Bright-Penn, Gulf Ref. 32 (wo) 600
Lilliard, G. W. Gray 11 ..... sw
Wells completed 2
Production 600
Salt water 1

GOOSE CREEK

Beaumont, Gulf Prod. 30 250
Busch, Gulf Prod. 2 (wo) ..... dry
C. Galliard, Gulf Prod. 10 75
Paddock, Gulf Prod. 5 250
State land, Gulf Prod. 32 250
Galliard, Gulf Coast Oil 31 40
Wright, Sun Co. 2 ..... sw
Smith, Humble Oil & Ref. 61 ..... sw
Wells completed 8
Production 865
Dry and salt water 3

HUMBLE

Burt, Cezereau & Martin 2 ..... dry
Bissonett, John Deering 2 300
Cherpiot, Bennett & Woods 1 35
Wells completed 3
Production 335
Dry 1

HULL

Wheelock, Eagle Point Oil 3 ..... dry
Taylor, Houston Prod. 8 3800
Guidry, Humble Oil & Ref. 15 (wo) 75
Hannah, The Texas Co. 2 9500
Republic, Higgins Fuel Oil 3 35
Stengler, Yount-Lee Oil 6 200
Dolbear, Republic Prod. 108 150
Dolbear, Republic Prod. 110 150
Dolbear, Republic Prod. 109 100
Dolbear, Republic Prod. 111 1000
Dolbear, Republic Prod. 112 2500
Barngrover, Empire Gas & Fuel 16 50
Phoenix, Gulf Prod. 48 250
Baldwin, Gulf Prod. 11 2000
Hannah, Gulf Prod. 17 200
Scarborough, Gulf Prod. 15 50
Wells completed 15
Production 14060

MARKHAM

Gray, Rycade Pet. 2 ..... sw
Completed and salt water 1

Orange

Winifree, Humble Oil & Ref. 11 200
Chesson, Humble Oil & Ref. 10-A 350
Moore, Atlantic O. P. 3 120
Granger, Sinclair O. & G. 4 10
Carbello, Atlantic O. P. 5 (wo) 120
Hager, Gulf Prod. 17 315
Chesson, Gulf Prod. 4-A 150
Granger, Gulf Prod. 2 2000
State land, Tillery Oil 1 ..... sw
M. Granger, Gulf Prod. 1 700
Winifree, Gulf Prod. 1 (wo) 30
Leon, Gulf Coast Oil 1 7
Chesson, Humble Oil & Ref. 9-A ..... abd
Chesson, Mutual Oil 7 (wo) 10
McLean, Brownie Babbittee Oil 4 15
Jackson, Supreme Oil 1 ..... dry
Carbello, Edgerly Pet. 2 20
Wells completed 17
Production 4052
Dry and salt water 3

PIERCE JUNCTION

Cain, Gulf Prod. 2 ..... abd sw
Wells completed and abandoned 1

SPINDLETOP

Gladys, Gulf Prod. 213 200
McFadden, Stella Oil 8 20
McFadden, Unity Oil 85 15
Higgins, Wilson & Broach 4 10
Trembly, Baker Oil 1 ..... abd
Lone Acre, Eddy Oil 7 100
Wells completed 6
Production 345
Abandoned 1

SARATOGA

Petty, Renga Oil 1 12
Texas, Weldon Oil 2 15
Bradley, Weldon Oil 6 25
Texas, Paggi Oil 14 15
Wells completed 4
Production 67

SOUR LAKE

Jackson, Yount-Lee Oil 1 120
Fee, M. E. Peveto 10 4
Herbert, Humble Oil & Ref. 28 25
Rogers, Barclay Oil 3 ..... abd
Carpenter, J. S. Jackson 13 ..... abd
Hardin, Gulf Prod. 27 ..... abd
Wells completed 6
Production 149
Abandoned 3

SOUTH LIBERTY

Harrison, Oxford-Navarro Oil 3 1300
Harrison, Oxford-Navarro Oil 4 800
Harrison, Monarch Oil & Ref. 4 700
Barrett, Vacuum Oil 4 ..... abd
Barrett, Vacuum Oil 2 2000
Barrett, Vacuum Oil 5 800
Barrett, Vacuum Oil 7 1200
Pickett, M. Bennett, 6-B 1800
Pickett, M. Bennett, 7-B 2000
Pickett, M. Bennett 5-B 800
Pickett, M. Bennett 8-B 1500
Pickett, Hofer Oil 1 1200
Pickett, Hofer Oil 2 300
Williams, Gulf Prod. 1 500
Orgain, Gulf Prod. 1 ..... abd sw
Schade, Gulf Prod. 1 250
Hammam, Gulf Prod. 2 250
Schade, Gulf Prod. 2 175
Rivere, Humble Oil & Ref. 2-B ..... gas blowout
Pickett, Humble Oil & Ref. 1-A ..... abd
Pickett, Humble Oil & Ref. 2-B ..... abd
Chars., Humble Oil & Ref. 2-A 1200
Harrison, Abercrombie et al 2 500
Staiti, The Texas Co. 1 ..... abd
Andrews, F. M. Long 2 ..... abd
Pickett, Bashara Oil 2 2500
Schade, Sun Co. 1 1500
Wells completed 27
Production 21275
Abandoned and salt water 6

VINTON

Lisso, Edgerly Pet. 2 ..... sw
Green, Seiss Oil 5 (wo) 60
Star, Gulf Ref. 23 (wo) 50
Gray, Marrs McLean 1 (wo) ..... sw
Wells completed 4
Production 110
Salt water 2

WEST COLUMBIA

TW, Humble Oil & Ref. 10 ..... abd
TW, Humble Oil & Ref. 15 15
McGregor, Hyde Prod. 2 ..... sw
Wilson, Humble Oil & Ref. 1 100
TW, Humble Oil & Ref. 12 20
Wells completed 5
Production 125
Abandoned and salt water 2

MISCELLANEOUS

Jefferson County—
Big Hill, Houston Oil, 1 Sun Davis ..... abd
Neches, The Texas Co. 2 ..... abd
Harris County—
Hockley, Warren, The Texas Co. 2 ..... abd
Brazoria County—
Nash, Rycade Pet. 2 ..... abd
Fort Bend County—
Vogel, Gulf Coast Dev. 3 ..... abd
Wharton County—
Boling, Heckstedt, Gulf Prod. 1 ..... abd
Cameron Parish (La.)—
Hackberry Island, Yount-Lee Oil 6 ..... abd
Kleberg County—
King Ranch, Humble Oil & Ref. 1 ..... abd
Wells completed and abandoned 8

SOUTHWEST FIELDS

LULING

Tiller, Finnell & Co. 1 500
Hardeman, United North & South Oil 9 200
F. Mercer, United North & South Oil 10 ..... dry
Wells completed 3
Production 700
Dry 1

LAREDO DISTRICTS

Wheatley Oil 15 80
Aviator, Rydal Oil 7 50
Aviator, Rydal Oil 8 100
Aviator, Rydal Oil 9 100
Cin-Tex Oil 6 ..... gas
Cole Pet. 7 ..... gas
O. W. Killiam 1 ..... gas
Cin-Tex Oil 8 125

Wells completed 8
Production 455
Gas 3

CALLIHAM

Tips, Glass & Co. 1 ..... gas
Lark, T. P. C. & O. 1 ..... gas

Wells completed and gas 2

JIM HOGG COUNTY

Holbein, Kisselman & St. Albans 7 100
Holbein, Kisselman & St. Albans 9 500
Holbein, Kisselman & St. Albans 8 200
Holbein, Buchanan & Plateau Oil 3..... gas
Holbein, Buchanan & Plateau Oil 4..... 125
Martinez, Magnolia Pet. 3 75
Thompson, Henne, Winch & Farias 8..... 200

Wells completed 7
Production 1200
Gas 1

LOCKHART

Brewer, Crouch et al 1 ..... dry
Gomillion, The Sun Co. 1 400
Gomillion, The Sun Co. 2 2000
Gomillion, The Sun Co. 4 500
Beaty, Gulf Prod. 1 250
Beaty, Gulf Prod. 2 200
Beaty, Gulf Prod. 3 1000
Brewer, Mid-Kansas Oil & Gas 1 70
Brewer, Mid-Kansas Oil & Gas 2 2500
Gomillion, Marland Oil 1 1800
Gomillion, United North & South 1 ..... dry

Wells completed 11
Production 8670
Dry 2

RIGS AND WELLS DRILLING

BATSON

Wells Drilling

McGoldrick, Paraffine Oil 17.
Fee, Paraffine Oil 40.
McGoldrick, East Batson Oil 27.
Davis, Ada Belle Oil 94 (dpng.).
Wells drilling, 4.

BLUE RIDGE

Rigs

Blakely, Gulf Prod. 11-C.
Robinson, The Texas Co. 13.

Wells Drilling

Luscher, The Gulf Prod. 8.
Rigs, 2; wells drilling, 1; total, 3.

BARBER HILL

Wells Drilling

Collier, S. J. Hindman 1.
Wells drilling, 1.

BIG CREEK

Wells Drilling

Langua, The Texas Co. 1.
Davis, Gulf Prod. 18, 19, 20.
Davis, Union Sulphur Co. 12, 13, 14
Wells drilling, 3.

EDGERLY

Wells Drilling

Hunter, Roxana Pet. 1.
Lilliard, G. W. Gray 11 (dpng.).
Wells drilling, 2.

GOOSE REEK

Rigs

State land, Gulf Prod., 33.
Wright, Gulf Prod., 16-A.

Wells Drilling

Hog Island, Humble Oil & Rfg. Co., 1.
Smith, H. O. & R., 61, 62.
Galliard, Gulf Coast Corp., 6 (wo).
Scorrgea, Bruce Pet., 1.
Wright, Southern Exploration, 11.
Galliard Fee, Gulf Prod., 17.
Chapman-Bryan, Gulf Prod., 9.
Beaumont, Gulf Prod., 24.
Rigs, 2; wells drilling, 9; total, 11.

HUMBLE

Rigs

Bissonett, John Deering, 3.

Wells Drilling

Landslide, Southern Pet., 43.
Burt, Cezereau & Martin, 3.
Cheript, Woods et al., 2.
Cherry, Marsailes Bros., 5.
Invincible, Hester et al., 3.
Rigs, 1; wells drilling, 5; total, 6.

HULL

Rigs

Wheelock, Eagle Point Oil, 4.
Dolbear, Republic-Houston Oil, 117.
Fee, The Texas Co., 4.

Wells Drilling

Guidry, H. O. & R. 7 (wo.)
Merchant, H. O. & R. 2.
Hannah, H. O. & R., 2-B.
Dolbear, Republic-Houston Oil, 102 wo; 114. 115, 116.
Taylor, Higgins Fuel Oil, 6.
Fee, The Texas Co., 3.
Hannah, Texas-Vacuum Oil, 4, 5.
Stengler, Yount-Lee Oil, 5.
Merchant, Yount-Lee Oil, 11, 12.
Phoenix, Gulf Prod., 50, 51, 52.
Morris-Phillips, Yount-Lee Oil, 20.
Baldwin, Gulf Prod., 12.
Mecom, Mecom Oil, 9.
Rigs, 3; wells drilling, 21; total, 24.

JENNINGS

Wells Drilling

Jennings-Clement, Gulf Rfg. Co., 36.
Truschell, Foxman Oil, 1.
Fee, Coastal Fuel Oil, 89.
Rigs, 0; wells drilling, 3; total, 3.

MARKHAM

Wells Drilling

Gray, Rycade Pet., 2. (dpng.)
Cherry, Powers and McCarthy, 1.
Rigs, 0; wells drilling, 2; total, 2.

ORANGE

Rigs

Hager Fee, Gulf Prod., 17.
Feveto, Gulf Prod., 9.
Consolidated, Gulf Prod., 3.

Wells Drilling

Cow Bayou, Rycade Pet, 5-A.
State land, Tillery Oil 1, sd.
Chesson, Humble Oil & Rfg., 21-B.
Winifree, H. O. & R., 11.
Chesson, Orange Pet., 9.
Chesson, Mutual Oil, 4, 14.
Brown, Sun Co., 3.
Gunstream, Sun Co., 6.
Galliere, Monarch Oil & Rfg. 5.
Rigs, 3; wells drilling, 10; total, 13.

PIERCE JUNCTION

Wells Drilling

Howe, H. R. Cullen, 6.
Dooley, Texas Exploration, 7.
Rigs, 0; wells drilling, 2; total, 2.

SPINDLETOP

Wells Drilling

Hogg-Swayne, Stella Oil Co., 18.
Rigs, 0; wells drilling, 1; total, 1.

SARATOGA

Booker, Paggi Bros. Oil, 2.
Duke, Paggi Bros. Oil, 3.

Wells Drilling

Fountain, Rio Bravo Oil 1, 2.
Parrish, Yount-Lee Oil 1.
Bradley, Paggi Bros. Oil, 5.
Wells, Gulf Prod. 1.
Rigs, 2; wells drilling, 5; total, 7.

SOUR LAKE

Rigs

Herbert, Humble Oil & Rfg., 24.
Brown, E. C. Hankamer, 2.

Wells Drilling

Ambrose, Yount-Lee Oil, 1.
Hardin, Lake View Oil, 42.
B and E, Sun Co's., 62.
Bashara, McNamara Oil, 12.
Rigs, 2; wells drilling, 4; total, 6.

SOUTH LIBERTY

Rigs

Pickett, Humble Oil & Rfg., 5-B.
Schade, H. O. & R., 3.
Barrett, Vacuum Oil, 3.
Barrett, Bashara Oil, 3, 4, 5.
Schade, Sun Co., 8, 10.
Harrison, Oxford-Navarro Oil, 9, 10.
Staiti, The Texas Co., 3, 4.
Simms, The Texas Co., 1, 2, 3, 4.
Williams, Gulf Prod., 3.
Orgain, Gulf Prod., 3.
O. A. Schade, Gulf Prod., 8.
Richardson, Gulf Prod., 3, 4.

Wells Drilling

Pickett, M. Bennett. 9, 10, 11.
Rivere-Brown, M, Bennett 2.
Pickett, H. & R., 2, 3, 4-A; 1, 2, 5-C.
Harrison, H. O. & R., 2.
Hanszen, H. O. & R., 1-A.
Chambers, H. O. & R., 2, 3, 4-A; 1, 2,-B.
Mitchell, H. O. & R., 1.
Schade, H. O. & R., 1, 2, 4, 5.
Barrett, Vacuum Oil, 6, 9.
Harrison, Peer Oil, 5, 6.
Pickett, Hofer Oil, 3.
Schade, Sun Co., No. 3, 4, 5, 6, 7, 9, 11.
Baldwin, Nells Esperson, 1.
Harrison, Oxford-Navarro Oil, 5, 6, 7, 8.
Conduit, Sinclair Oil & Gas, 1.
Williams, Gulf Prod., 1, 2, 4.
Orgain, Gulf Prod., 2.
O. A. Schade, Gulf Prod., 1, 3, 4, 5, 6.
Antoine, Gulf Prod., 1.
Deussen, Gulf Prod., 1-A.
Richardson, Gulf Prod., 1, 2.
Rigs, 21; wells drilling, 53; total, 74.

VINTON

Rigs

Star, Gulf Rfg. 36.

Wells Drilling

G. N. G., Gulf Rfg. 62.
Vincent, Gulf Rfg., 38.
Star Gulf Rfg., 35.
Lyons, Just Oil & Rfg., 2.
Vincent, Vinton Pet., 15.
Rescue, Vinton Pet., 13.
Gray, Vinton Pet., 49.
Vincent, Edgerly Pet., 3.
Gray, The Texas Co., 2-A.
Lucky Four, G. F. B., Oil, 8.
Parks, Wilson-Broach, 6.
Rigs, 1; wells drilling, 11; total, 12.

WEST COLUMBIA

Rigs

Tyndale-Wyoming, Humble Oil & Rfg., 13.

Wells Drilling

Wilson, Humble Oil & Rfg., 2.
Lee, Hyde Prod., 1.
Rigs, 1; wells drilling, 2; total, 3.

LOCKPORT (LA)

Wells Drilling

Govt., Marland Oil, 1.
Miller, Vacuum, Gulf Co., 2, 3.
———, Farquahar et al., 1 (dpng.)
Rigs, 0; wells drilling, 4; total, 4.

SOUTHWEST FIELDS

LULING

Rigs

M. Mercer, United North & South Oil, 9.
C. Byrd, United North & South, 11.
L. Byrd., United North & South, 14.
Fisher, United North & South, 1.

Wells Drilling

F. Mercer, United North & South.
Hardeman, United North & South.
Rigs, 4; wells drilling, 2; total, 6.

LAREDO DISTRICTS

Rigs

———, Laredo Oil, 5.
———, Wheatley Oil, 16, 17.
———, Rydal Oil, 10, 11.
Bruni, Cole Pet, 6.
Bruni, O. W. Williams, 2.

Wells Drilling

———, Cin-Tex., 7.
———, Carolina-Tex., 6.
———, Calumet Pet., 1.
Rigs, 7; wells drilling, 3; total, 10.

SOMERSET

Rigs

Harvey, Frontier Oil, 8.
———, Harmon et al., 7, 12.
Ernst, Grayburg Oil, 17.

Wells Drilling

White, Ballard & Underwood, 1.
Rigs, 3; wells drilling, 1; total, 4.

CALLIHAM

Rigs

Lark, Southern Natural Gas, 10.
Hicks, Coquet, et al., 2.

Wells Drilling

Nicholds, Grubstake Investment, 3.
Rigs, 2; wells drilling, 1; total, 3.

ROCKDALE-MINERVA

Rigs

Phillips, Texas Pet., 7.
Niehaus, Brady Co., 3.
Fee, Roundtree Co., 1.

Wells Drilling

McClelland, Fogel Oil, 16.
Chambers, J. F. Brady, 2.
Rigs, 3; wells drilling, 2; total, 5.

JIM HOGG COUNTY

Rigs

Thompson, Magnolia Pet., 7.
Vela, Russell & Hoffman, 1.
Holbein, Plateau-Wheat, 3, 4, 5.
Freeman, Plateau-Tex, Pac., 5.
Holbein, Plateau-Buchana, 5, 6.
Martinez, Plateau Oil, 5.
Holbein, Buchanan et al., 4.

Wells Drilling

Block 1, Survey 256, H. W. & F., 1.
Block 7, Survey 257, Detray Co., 1.
Allen, Rycade-Rydal Co., 1.
———, Texo Oil, 3.
Rigs, 10; wells drilling, 4; total, 14.

LOCKHART (CALDWELL COUNTY)

Rigs

Gomillion, Sun Co., 7.
M. L. Brewer, Humble Oil & Rfg. 1, 2, 3.
Brewer, Mid-Kansas Oil & Gas, 5.
Beaty, Gulf Prod., 6.
Gomillion, Marland Oil, 2.
Palmer, Marland Oil and others, 1.
Ellright, Marland & Walsh, 1.
Lackey, Marland et al., 1.

Wells Drilling

Gomillion, Harper & Jarmon, 1.
Brewer, Mid-Kansas O. & G., 4.
Brewer, Evans Oil, 1.
Brewer, Crouch & McClanahan, 2.
Beaty, Gulf Prod., 4, 5.
Gomillion, Sun Co., 5, 6.
Cardwell, Danaghy, 1.
Cardwell, United North & South, 1.
Rigs, 9; wells drilling, 9; total, 18.

MISCELLANEOUS

Angelina County—

Wells Drilling

Henderson, Ferd Heine, 3.

Brazoria County—

Wells Drilling

Chester, Bryan Prod., 1.
Angleton, Rumsey et al, 1.
Burns, Gulf Prod., 2.
Fish Pond, Gulf Prod., 1.
Dannebaum, Stratton Ridge Oil & G., 12.

Chambers County—

Rigs

Jackson, Humble Oil & Ref. Co., 3-A.
Smith, Hindman et al., 2.

Wells Drilling

Fisher, C. T. Rucker, 1.

Duval County—

Rigs

Singer, Humble Oil & Rfg. 4.
Smith, Union Sulphur, 7.
Welsh, Humble Oil & Rfg., 3.

Wells Drilling

Mesquite, Mesquite Oil, 1.
Dinn, Co-Operative Drig. 1 sd.
Benavides, O. W. Killiam, 1.

Fort Bend County—

Rigs

Wayteck, Humble Oil & Rfg., 1.
Davis, Union Sul. 19.

Wells Drilling

Moore, Gulf Prod., 4.
Pickney, Pathfinder Oil, 1.
Lockwood, Rycade, 1.
Lockwood, Marland Oil, 1.
Meier, Marland Oil, 1.
Nash, Rycade Pet., 1, 3.
Vogel, Gulf Coast, 4.

Galveston County—

Rigs

Coon, The Texas Co., 2, 3.
Guidry, Yount-Lee Oil, 3.
———, High Island Oil, 1.

Wells Drilling

Smith, Gulf Prod., 2.
Cade, Sun Co., 5.
Dunman, Sun Co., 1.
———,Gilbert et al., 4.

Harris County—

Rigs

Blanco, Humble Oil & Rfg. 1.
Schneider, Dome Dev. & Pet. 3.
Little York, Kelly et al 1.
Westfield, Katton et al 1.

Wells Drilling

Rosenthal, Rycade Pet. 1.
Warren, The Texas Co. 1, 3.
San Jacinto, Kane Prodn. 2 sd.
Seabrook, Seabrook Oil 1.
Grimes, La Porte Oil 2, sd.

Hardin County—

Wells Drilling

Hawley, Texas Little Farms Co. 1.

Jefferson County—

Rigs

———, Port Arthur Dev. 1.
Big Hill, Staiti, Houston Oil, 7.

Wells Drilling

Big Hill, Staiti, Houston Oil 6 sd.
Pipkin, Houston Oil 10.
Wilson, Paggi Bros. Oil 2.

Jasper County—

Rigs

Bond, Humble Oil & Rfg. 1.
———, Jasper parties 1.

Wells Drilling

Gray, Humble Oil & Rfg. 1-A.

Jackson County—

Rigs

Rose, Houston Oil 2.

Wells Drilling

Selinar, Vanderbilt Pet. 1.
Drushell, Jackson County Synd. 3.
Rose, Houston Oil, 1.

Kleberg County—

Wells Drilling

King, Humble Oil & Rfg. 12-A.
Flato, Humble Oil & Rfg. 2.
Flato, Kingsville Oil & Gas 3.

Liberty County—

Rigs

Jones, Paddock and McRea 1.

Wells Drilling

West of Batson, Hofer Oil 1 sd.
West of Batson, Republic Prod. 1 sd.

Montgomery County—

Rigs

Hall, near Willis, Sprague et al 1.
Foster, Gulf Prod. 1.

Matagorda County—

Rigs

Perry, Humble Oil & Rfg. 1-A.

Wells Drilling

Dwyer, Marland Oil, 1.
Hawkins, Shepherd Dome Oil 1.
Palacios, Palacios Oil Dev. 1 sd.

Milam County—

Rigs

Kimes, Pure Oil 1.

Wells Drilling

Kimes, Magnolia Pet. 1.

Bosque County—

Rigs

Klime, Sitton et al, 1.

Orange County—

Wells Drilling

Stark, Republic Prod. 1.

Refugio County—

Rigs

Woodville, Refugio Oil & Gas 6.

San Jacinto County—

Wells Drilling

———, C. O. Fleming, 1.

San Patricio County—

Rigs

Dunn, Corpus Christi Oil 2.

Wells Drilling

Collins, Plateau Oil 2.
Freeman, Plateau sd. 2.

Shelby County—

Rigs

Ponton, J. T. Wallinsford 1.

Waller County—

Rigs

Dodd, G. M. Gordon 1.
———, Hempstead Oil 1.

Wells Drilling

Patterson, Humble Oil & Rfg. 1.

Washington County—

Wells Drilling

Schuleburg, Fitzsimmons et al 1 sd.

Walker County—

Wells Drilling

Eastham, Ridge Oil & Gas 2.

Wharton County—

Wells Drilling

Boling Dome, Felder, Gulf Prod. 1.
Boling Dome, Taylor, The Texas Co. 1.

Willacy County—

Rigs

King, Humble Oil & Rfg. 1.

SOUTH LOUISIANA COASTAL

Cameron Parish—

Rigs

Johnson Bayou, Roxana Pet 1, 2.
Hackberry Island, Yount-Lee Oil, 5.

Wells Drilling

Sweet, Pure Oil 1.

Calcasieu Parish—

Rigs

Sulphur, Union Sulphur, 714.
———, Pure Oil 2.
———, Lake Land Oil, 1.

Wells Drilling

Vincent, Union Sulphur 1.

Acadia Parish—

Rigs

Chappins, Denman et al 1.
Ross, E. A. Gordlit, 1.

Wells Drilling

Trushell, Manley & Clark, 1, sd.

St. Martin Parish—

Rigs

Champagne, Pure Oil 1.

Wells Drilling

Gonsoulin, Union Sulphur 1.
Rigs, 39; wells drilling, 56; total, 95.

LAKE CHARLES DISTRICT

Lockport—

Wells Drilling

Marland Oil Co., U. S. Government 1.
Vacuum-Gulf Co. No. 2 Miller.
Vacuum-Gulf Co. No. 3 Miller.
Farquahar et al A (DD) No. 1.

SOUTHWEST TEXAS COUNTIES

MISCELLANEOUS

Atascosa County—

Rigs

———, Marland Oil 1.

Wells Drilling

Peeler, Halloran et al 1.
———, De Lange, Eiser & Co. 1.

Bexar County—

Wells Drilling

Binz, Marland Oil 1 sd.
Wurzbach, Gas Ridge Dev. 1.
———, Storey & Lefevre 1.

Bastrop County—

Rigs

Hicks, Clark et al 1.
English, British Oil & Gas 2.
Trigg, Stein et al 1.
———, W. O. Schock 1.

Wells Drilling

English, British Oil & Gas 1 sd.
———, Cardinal Oil 1 sd.
Barton, M. A. Currie et al 1 sd.

Bee County—

Rigs

Near Beeville, Unknown parties, 1.

De Witt County—

Rigs

Near Edgar, Yero Oil & Gas 1.
Five Mile, Ceuro Oil & Gas 1.

Frio County—

Rigs

———, Storey and Lefevre 1.

Goliad County—

Wells Drilling

Wood, Houston Oil 1.

Gonzales County—

Rigs

10 Miles South of Gonzales, Greer et al 1.

Guadalupe County—

Rigs

Bailey, Allen Burman 1.
Vogel, Jennings et al 1.
Lenz, Stebbins Oil & Gas 1.

Wells Drilling

Pryor, Ross & Green 1 sd.
Thomas, W. B. Pittman, 1 sd.
Wientz, Flick et al 1.
Lenz, McClanhan et al 1.
Gib Springs, White et al 1 sd.
Koch, J. M. Davis 1.

Hidalgo County—

Rigs

King, Humble Oil & Rfg. 1-A.

Wells Drilling

Ferdenez, Dale C. Smith, 3.

Jim Hogg County—

Rigs

———, Humble Oil & Rfg. 1.
Givens, Russell-Hoffman 1.

Wells Drilling

Wood, Simms Pet. 1.
Survey 262, San-Tex Oil 1.
Holbein, Weber Oil, 1 sd. 3375 ft.
Palacios, J. W. Pippis 2.

Jim Wells County—

Wells Drilling

Near Alice, Simms Pet. 2.

Karnes County—

Rigs

———, Sherset and Lane.

Wells Drilling

Hyatt, Allidor Oil 1 sd.
North of Kenedy, Russell & Williams 1 sd.

Live Oak County—

Rigs

Cartwright, Houston Oil 9, 10.

Wells Drilling

Cartwright, Houston Oil 8.
Miller, Plateau- T. P. C. & C. 1.
Miller, The Texas Co. 3.

McMullen County—

Wells Drilling

Dillworth, Humble Oil & Rfg. 1.
James, B. G. Pickett, 1.
Brown, Old Ocean Oil 1.
Aycock, Grubstake Inv. 1, 2.
Jacobs, Grubstake Inv. 2.
Shriner, San Balt Oil 2.
Fouch, Darden & Stephens 1.
Mahoney, O. W. Kallatt, 1.
Lowe, D. C. & M. C. Oil 4, 7.

Medina County—

Rigs

E. Noble 1.

Wells Drilling

Whittoff, Amy Oil 1.
Roth, California-Medina Oil 1.
Haeglin, Lampasses-Bisbee Oil 1.
Haby, Mid-Kansas O. & G. 1.
Fusselman, Kone & Willis 1.

Starr County—

Wells Drilling

Rio Grande, Berkshire Pet 2 sd.

Sterling County—
Rigs
Foster, Wrightsman et al 1.
Reynolds, C. L. Harty et al, 1.
Dennis, Bushnell & Krous, 1.
Wells Drilling
Foster, Ford et al 1 sd.
Durham, Chicago-Texas Oil 1 sd.
Reynolds, Pettitt et al 1 sd.
Douthitt, Cooperative Lease & Dev. 1 sd.
Uvalde County—
Wells Drilling
Kincaid, H. O. & R. 3.
Flores, Clark Prod. 1 sd.
South of Sabinal, A. N. Taylor, 1 sd.
Valverde County—
Wells Drilling
Moore, Rio Bravo Oil 1.
Russell, East del Rio Oil 1 sd.
Webb County—
Wells Drilling
Yeager, Quigg et al 1.
Gates, Chenault et al 1 sd.
Garcia, Binney Oil 1.
Dillard, Witherspoon Oil 1.
Benavides, National Oil & Rfg. 1.
Garzo, Snodgrass et al 1.
Los Ojulas, T. G. Binney 4.
Wilson County—
Rigs
Tasta, Clark & Humphries 1.
Wells Drilling
Green, Mahone et al 2.
Kotsur, Douglas & Thomas 1.
——, Witherspoon Oil 1.
Houck, Garrett et al 1.
Yoakum County—
Wells Drilling
4 Miles SE of Yoakum, Yoakum Drg. Co. 1 sd.
Zapata County—
Rigs
Vela, H. J. McMullen 1, 2, 3.
Wells Drilling
Survey 617, H. K. Bateman 1.
Zavalla County—
Wells Drilling
Pryor, Hadely & Harmon 1.
Rigs, 26; wells drilling, 64; total, 90.

ROCKY MOUNTAIN AREA

Summary of Field Operations

Field—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Big Muddy	0	0	0	0	0	3	3
Salt Creek	36	4,932	0	0	50	63	113
Lance Creek	0	0	0	0	0	3	3
Big Horn Basin	1	0	1	0	7	44	51
Lost Soldier	3	1,533	0	0	2	31	33
Rock River	1	0	1	0	1	17	18
Fremont Co.	1	0	1	0	0	26	26
Osage	0	0	0	0	6	10	16
Natrona Co.	0	0	0	0	0	17	17
Lincoln and Uintah Co.s.	0	0	0	0	3	10	13
Baxter Basin.	0	0	0	0	1	8	9
Miscellaneous.	0	0	0	0	1	23	24
Total April	42	6,465	3	0	71	255	326
Total March	21	2,651	3	5	74	269	343
Difference	21	3,814	0	5	3	14	17

MONTANA

Sunburst	12	945	1	0	13	33	46
Miscellaneous & Cat Creek	6	100	1	0	19	93	112
Total April	18	1,045	2	0	32	126	158
Total March	11	160	8	0	17	114	131
Difference	7	885	6	0	15	12	27

COLORADO

Total April	5	0	5	0	14	85	99
Total March	3	1,000	1	1	11	73	84
Difference	2	1,000	4	1	3	12	15

UTAH

Total April	0	0	0	0	1	27	28
Total March	0	0	0	0	1	23	24
Difference	0	0	0	0	0	4	4

NEW MEXICO

Total April	9	2,130	0	0	5	51	56
Total March	6	1,085	1	0	3	46	49
Difference	3	1,045	1	0	2	5	7

BIG MUDDY

Shut Down
8-33-76 Humphreys Oil Co., 28.
2-33-76 Fenix, Mutual Oil Co., 4.
8-33-76 Carey, Texas Prod. Co., 32.

SALT CREEK
Rigs
24-40-79 SE Wyoming Asso. 1-A.
6-39-78 SE Mt. and Gulf, 8-A.
13-39-79 SE Blackstone Salt Creek, 4-F.
30-39-79 Teapot Oil & Land Co.
19-40-78 NE Continental Prod. 3-BS.
34-39-78 SW Mammoth Oil Co., 302.
34-40-78 NW Mammoth Oil Co., 205.
28-39-78 NW Mammoth Oil Co., 405.
28-39-78 SE Mammoth Oil Co., 406.
13-38-78 SW Wyo. Teapot Oil Co., 1.
16-39-78 NE Nicolaysen et al.
16-38-78 NW Mammoth Oil Co., 202.
19-40-78 NE Norris Oil Co., 18-A.
8-39-78 NE Western States O. & L. 21-A.
17-39-78 NW Western States O. & L. 13-A.
5-39-78 SW Carter Oil Co., 12-D.
2-39-79 SE Sinclair Wyo. 11.
1-39-79 SE Mutual Oil Co., 11-A.
2-39-79 SW Mutual Oil Co., 8-A.
20-39-79 Tract E. T. Ohio Oil Co., 7.
12-39-78 Castle Rock, Ohio Oil Co., 11.
6-39-79 NE Mt. and Gulf 29-A.
19-40-78 SW Midwest Oil Co., 18-A.
23-40-79 NE Midwest Oil Co., 6-A.
24-40-79 SW Wyoming Asso., 18-A.
19-40-78 SW Salt Creek Cons., 36-A.
2-39-79 NE Wyoming Asso., 6-A.
17-39-78 NW Marine Oil Co., M-7, M-2.
14-40-79 SE Wyoming Asso., 31-A.
24-40-79 NW Wyoming Asso., 33-A.
14-40-79 SW Wyoming Asso., 36-A, 24-A.
14-40-79 SE Wyoming Asso., 18-A.
6-39-78 NE Mt. and Gulf. 13-A, 24-A.
19-40-78 SW Midwest Oil Co., 36-A, 22-A.
2-39-79 NW Midwest Oil Co., 1-A.
27-40-79 SE Midwest Oil Co., 3-A, 4-A.
27-40-79 NE Midwest Oil Co., 34-A.
11-40-79 SW Midwest Oil Co., 21-A.
11-40-79 SE Midwest Oil Co., 16-A.
14-40-79 NE Midwest Oil Co., 24-A.
27-40-79 SE Midwest Oil Co., 21-A.
11-40-79 SE Midwest Oil Co., 24-A.
12-40-79 SW Midwest & Wyo. Asso., 19-A.
25-40-79 SW Midwest Oil & Wyo. Asso., 3-A.
11-39-79 NE Prairie Oil & Gas, B-6.
Wells Drilling
33-40-78 Shuster Bros., 23-A.
22-40-79 SE Wyoming Oil Fields, 22-A.
23-40-79 NW Wyoming Oil Fields, 1-A.
23-40-79 SE Wyoming Oil Fields, 24-A.
24-40-79 NE Wyoming Asso., 33-A.
30-40-78 SW Wyoming Asso., 21-A.
14-40-79 NW Wyoming Asso., 33-A.
26-40-79 SE Wyoming Asso., 4-A.
34-40-79 NE Wyoming Asso., 24-A.
35-40-79 NW Wyoming Asso., 18-A.
24-40-79 SE Wyoming Asso., 3-A.
24-40-79 NW Wyoming Asso., 34-A.
35-40-79 SE Wyoming Asso., 22-A, 31-A.
27-40-79 SW Salt Creek Cons., 36-A.
31-40-79 SE Salt Creek Cons., 16-A.
31-40-79 SW Salt Creek Cons, 15-A, 13-A.
11-40-79 SW Salt Creek Cons., 13-A.
11-39-79 NW Salt Creek Cons., 24-A.
19-40-78 SW Midwest Oil Co., 6-A.
22-40-79 NE Midwest Oil Co., 34-A.
22-40-79 NE Midwest Oil Co., 33-A.
27-40-79 NE Midwest Oil Co., 33-A.
35-40-79 SW Midwest Oil Co., 36-A.
25-40-79 SE Midwest Oil Co., 22-A.
6-39-78 SE Kasoming Oil Co., 3.
11-39-78 NE Kasoming Oil Co., B-2.
5-39-78 NE Western States O. & L. 31-A.
5-39-78 SW Carter Oil Co., R-12.
5-39-78 SE Carter Oil Co., D-14.
5-39-78 NW Carter Oil Co., D-13.
6-39-78 SW Staley Synd., 5.
28-40-79 SE Teton Oil Co., 1.
34-40-79 SE Wyoming Asso., 21-A.
19-39-78 NW Kinney Coastal, 19-A.
2-39-79 SW Mutual Oil Co., 4-LS.
23-40-79 NW Wyoming Oil Fields, 34-X.
17-39-79 SE Marine Oil Co., 8-M.
14-40-79 SW Wyoming Asso., 3-A.
12-40-79 NW Wyoming Asso. 33-A.
31-40-78 SE Salt Creek Cons., 21-A.
27-40-79 SW Salt Creek Cons., 12-A.
15-40-79 SE Kasoming Oil Co., 10.
Shut Down
27-40-79 SE Midwest Oil Co., 31-A.X.
19-39-78 SE Texas Prod. Co., D-1.
10-40-79 SE Empire State Oil, 25-A.
28-39-78 NE Mammoth Oil Co., 101.
29-39-78 NE Mammoth Oil Co., 108.
28-39-78 NE Mammoth Oil Co., 304.
28-39-78 SW Mammoth Oil Co., 302.
28-39-78 NW Mammoth Oil Co., 205.
4-38-78 NW Mammoth Oil Co., 101.
23-39-78 NE Evans Oil Co., 1.
29-39-78 NW Omaha Lusk Oil Co., 1.
2-38-78 NE Teapot Dome Synd., 34-A.
6-39-78 NE Mt. and Gulf, 34-A.
2-39-78 SW Sinclair Wyoming, 16.
34-39-79 SW Mutual Oil Co., 35-A.
7-39-78 SE Mutual Oil Co., 1 and 2.
28-40-79 SW Jupiter Oil Co., 27-A.
24-39-79 NE Mutual Oil Co., 22-AS.
Rigs, 50; wells drilling, 63; total, 113.

LANCE CREEK

Wells Drilling
5-36-65 Lamb, Ohio Oil Co., 5.
Shut Down
18-35-65 NE Union Oil Co., 1.
3-35-65 Belle Cattle Co., Mutual O. Co.
Rigs, 0; wells drilling, 3; total, 3.

BIG HORN BASIN

Rigs
33-56-79 Cross Gas Co., Ohio Oil Co., 2.
23-44-95 Flavin, Ohio Oil Co., 1.
5-47-90 Hetzler, Ohio Oil Co., 1.
32-56-97 Howell, Occidental Oil & Gas.
33-56-96 Westland Oil Co.
7-46-98 Washakie, Ohio Oil Co., 2.
20-53-101NE Taylor Bros.
Wells Drilling
17-46-98 Washakie, Ohio Oil Co.
10-55-97 Byron Superior Oil.
2-44-96 NW F. A. McPherson.
7-54-93 Gary Oil & Dev. Co.
31-43-90 SW Utah Oil & Rfg. Co., 3.
15-49-91 Shaffer & Tilley.
8-51-100 Sonners, Ohio Oil Co., 2.
20-46-98 Mill Iron, Ohio Oil Co., 68.
18-46-98 Washakie, Ohio Oil Co., 4.
28-44-93 West Zimmerman Butte Oil.
19-46-98 Meteesee, Midwest Rfg. 16-A.
3-35-97 Royalty & Holding Co.
8-51-100 Union Oil Co.
11-49-102 Omar Oil & Gas Co.
19-26-93 Ridgley, Midwest Ref. Co., 19-A.
34-43-93 C. D. Markham et al.
31-56-96 California Co. 1.
8-51-100 Sonners, Ohio Oil Co.
5-57-99 NW Homestake Oil Co.
34-42-91 Lake Creek, Union Oil Co.
20-53-101NE Washington Oil & Gas.
5-54-93 Royal Oil & Rfg. Co.
1-49-102 T. C. Clark, et al.
18-46-98 SW Midwest Rfg. Co., 20-A.
23-44-95 NE Utah Oil & Rfg. Co.
2-56-97 Jones, Allen Oil Co.
21-53-101 Guiterman et al.
14-48-102 Big Horn Dev. Co.
31-48-90 Tensleep, Ohio Oil Co., 3.
29-56-97 Utah Cons. Oil.
Shut Down
11-49-102 T. A. Stancliff.
35-57-97 NE American Indiana Oil Co.
20-53-100 Pittsburgh & Southwestern.
4-50-100NW Florence Oil Co.
3-55-97 Griffin, Allen Oil Co.
10-45-95 SE Westland Oil Co.
1-47-100NW Midwest Rfg. Co.
31-48-99 SW Midwest Rfg. Co., 18.
26-46-100NE Prod. & Refs.
28-44-93 NE F. A. McPherson.
29-56-97 NE Utah Southern Oil.
2-47-100NE Midwest Rfg. Co.
34-56-97 Linton, Allen Oil Co.
31-45-99 NW Kasoming Oil Co.
22-40-91 SW Olympus Oil Co.
17-49-91 Frontier Oil & Gas.
27-46-98 Rankin, Dickie Oil Co.
8-46-98 Grass Creek Prod.
12-45-97 Midwest Refg. Co.
3-56-97 Beck Pet. Co.
16-47-100 Big Horn Dev. Co.
17-46-98 Tunador Oil Co.
30-56-97 Prod. & Refs. Co.
19-51-92 Bruce Holding Co.
Rigs, 7; wells drilling, 44; total, 51.

LOST SOLDIER

Rigs
3-26-90 Prairie Oil & Gas 60.
13-21-88 E. R. Goode.
Wells Drilling
14-20-88 SE Lake Valley Oil Co.
16-25-86 General Pet. Corp.
27-18-87 SW Marland Oil Co.
26-26-89 E. R. Goode et al.
22-26-90 UW Texas Prod. Co.
20-21-90 NW Prod. & Refs. Co. 1.
12-24-89 Govt. Land, Prod. & Refs.
11-26-90 NE Bair Oil Co., 1-C.
12-26-90 Texas Prod. Co.
26-20-88 Hatfield No. 2 Oil Co.
11-26-90 NE Prairie Oil & Gas Co. 66-A.
33-26-26 NE Prod. & Ref. 3.
20-21-80 Prod. & Refs. 4.
36-26-87 Prod. & Refs. 3.
29-23-88 Prod. & Refs. 2.
Shut Down
28-26-86 Portland Wyoming 1, 2.
21-26-86 Portland Wyoming, 3.
3-26-90 Sand Hills Oil Co., 5.
7-26-89 NW Prod. & Refs. 3.
9-26-86 Govt. Land, Sand Hills Oil 2.
4-26-90 SE Sand Hills Oil Co. 4.
23-26-87 SE Marvin Oil Co.
28-26-88 Govt. Land, Columbia Pet. Co.
9-26-90 SE Major Oil Co.
2-26-90 SE Prod. & Refs.
14-26-90 Bair Oil Co., D-3.
34-27-90 SW Annabell Wyoming Oil.
35-25-88 M. M. Armstrong.
24-26-87 SW Prod. & Refs. 20.
8-25-86 NE General Pet. Corp., 2.
Rigs, 2; wells drilling, 31; total, 33.

ROCK RIVER DISTRICT

Rigs
23-21-79 SE Southwestern Pet. Co.
Wells Drilling
12-19-79 SW Prairie Dog Oil & Gas Co.
1-18-78 Dutton Creek, Midwest Ref.
25-22-78 Foote Creek, Kasoming Oil Co.
23-16-77 U. P., Ohio Oil Co. 3.
34-16-74 Govt. Land, G. A. Briggs.
25-16-77 Repollo Oil Co.
14-15-75 SE Wyo. Hollow Basin Oil Co.
25-22-78 SW Prairie Oil & Gas.
19-18-77 U. P. Ohio Oil Co.
25-21-79 SE Southwestern Pet. Co.
26-21-79 SE Southwestern Pet. Co.
25-16-77 Rex Dome Oil Co.
24-23-79 Allen Lake, Laramie Synd.
Shut Down
36-21-79 NW Southwestern Pet. Co.
34-23-79 Central Pipe Line Co.
10-18-77 Carbon County Oil Co.
12-20-77 McLaughlin et al.
Rigs, 1; wells drilling, 17; total, 18.

FREMONT COUNTY

Wells Drilling
13-28-93 SE Prod. & Refs., 1.
24-33-90 Seal Oil Asso.
36-37-94 Wyoming Syndicate.
3- 1- 2 NE Teton Pet. Co.
23-32-95 Prod. & Refs., 1.
22- 6- 2 Miles City Oil Corp.
9-31-98 Martin F. Fold et al.
26- 5- 2 Connelly Oil & Gas.
9-32-95 NE Prod. & Refs., 2.
15-34-90 Ward Oil Co.
21- 1- 1 McDonald et al.
4-31-98 Derby Dome Wyoming Oil.
4-31-98 Burnside Oil Co.
24-32-90 Meyers Pet. Co.
14-32-95 NW Riverton Pet. Co.
15- 5- 2 NW Mack Syndicate.
Shut Down
18-27-95 SE Prairie Oil & Gas.
7-27-95 Van Wyo., Prairie Oil & Gas.
19-27-18 Prairie Oil & Gas.
6- 6- 2 SW Union of Calif., 2.
10-36-94 NW Myrin Oil Co.
15- 6- 2 Union of Calif., 13.
21- 1- 1 Bridger Oil Co.
18-27-95 Sage Creek Pet. Co.
29-27-95 Fremont Pet. Co.
15-32-95 NE Prod. & Refs. 3.
Rigs, 0; wells drilling, 26; total, 26.

OSAGE

Rigs
31-47-63 L. B. Hanson.
31-47-63 West Royalty Co.
Fawcett Ranch, Manlove et al.
31-46-63 Clark et al.
17-46-63 La Fleiche Oil Co.
31-46-63 Lusk Royalty Oil.
Wells Drilling
18-46-63 W. J. Zitterall et al.
10-45-61 Lenhart & Briggs.
17-47-63 Wyoming Oil & Gas.
18-46-63 Fred Gravestead.
5-46-63 Fletcher Brothers.
31-46-63 Tom Don Oil Co.
17-46-63 La Fleiche Oil Co.
Shut Down
11-45-65 Frederick Oil & Gas.
6-46-63 Osage Trust Co.
8-46-63 Griffith Oil Co.
Rigs, 6; wells drilling, 10; total, 16.

NATRONA COUNTY

Wells Drilling
23-34-82 Bradford Wyoming.
23-33-70 Casper Oil Synd.
15-34-87 NE Mutual Oil Co.
11-32-92 New York Oil Co.
30-29-87 Kinney Coastal Oil Co.
10-36-85 New York Oil Co.
9-35-85 New York Oil Co.
36-37-82 Midwest Oil Co.
15-32-82 Danaher Synd.
5-39-80 NW Vernon Oil Co., 2.
31-40-80 NW Comet Oil Co.
25-36-85 Midwest Refg. Co.
Shut Down
9-41-80 Newcome et al.
15-34-87 NE Mutual Oil Co.
20-37-86 NW John Wyland et al.
10-37-85 NE Marland Oil Co.
36-37-82 Midwest Refg. Co.
Rigs, 0; wells drilling, 17; total, 17.

LINCOLN AND UINTAH COUNTIES

Rigs
3-26-113 Wyoming Reserve Oil Co.
31-28-113 Tip Top Syndicate.
12-29-113 Clinton Oil Synd.
Wells Drilling
34-27-113 Wyotah Oil & Gas.
32-19-116NW Conger et al.
Near Afton, Great Western Oil.
9-26-113 Transcontinental Oil Co.
22-21-113 Three States Oil Co.
3-26-113 Superior Oil Co.
1-37-114 Midwest Rfg. Co., 36X.
14-21-117 Pacific Properties Co.
Shut Down
Afton District, Idaho Wyoming Oil.
1-28-114, Chas. Lackey et al.
Rigs, 3; wells drilling, 10; total, 13.

BAXTER BASIN

Rigs
27-17-104 Montical Oil Co.
Wells Drilling
13-17-104 Producers & Refiners.
23-17-104 SE Associated Oil Co.
Shut Down
2-17-104 NE Midwest Ref. Co. 1.
8-16-104 SE Montical Oil Co.
10-16-104 SW Midwest Ref. Co. 29.
26-17-104 SE Associated Oil Co.
24-17-104 SE Montical Oil Co.
30-18-104 Midwest Ref. Co. 6-AX.
Rigs, 1; wells drilling, 8; total, 9.

MISCELLANEOUS

Rigs
Carey Ranch, Richenbach et al.
Wells Drilling
1-44-61 Salt Air Anticline, A. D. Moore et al.
28-47-63 NE Gose Syndicate.
24-26-82 NW Foreman et al.
31-37-67 NW Atlas Oil Co.
45-62- George Shaw et al.
6-28-62 Jay Em, Foreman et al.
12-26-67 Platte Valley Oil Co.
23-27-93 Associated Oil Co.
28-42-78 Seattle Syndicate.
21-21-80 Prod. & Ref.
16-21-80 Prod. & Ref.
26-27-71 Platte Wyoming Oil Co.
Guernsey district, Illinois Synd.
28-48-82 McL., Carter Oil Co.
21-48-82 Graham, Carter Oil Co.
28-42-79 Montana Giant Oil Co.
Buffalo district, Kinney Coastal Oil Co.
Wells Drilling
17-48-82 Beatty, Tarrant Synd.
31-50-69 Rozet Oil & Gas Co.
20-29-68 Nebraska Oil Co.
16-48-82 Belt, Carter Oil Co.
17-48-82 Hesse, Carter Oil Co.
18-39-68 Glendo Oil & Gas.
Rigs, 1; wells drilling, 23; total, 24.

MONTANA

CAT CREEK

Rigs
12-15-28 NE, Shaffer Oil Co.
Wells Drilling
11-15-29 Cook-Coolidge-Ide. 1.
31-15-30 NE, M. Maser et al.
10-15-29 Continental Oil Co.
12-15-28 California. Co.
31-15-30 Michael Masters et al.
8-15-29 Mutual Oil Co.
12-15-28 Catlet, Mid-Northern Oil Co. 3.
9-15-27 Peerless Oil Co.
23-14-28 Winnet Pacific Oil Co.
1-15-29 Custer Oil Co.
28-16-28 Republic Peerless Oil Co.
9-15-29 NE, Frantz Oil Corp.
7-15-29 NW T. S. Hogan.
9-15-29 Mid-Northern Oil Co.
29-14-29 Flatwillow Oil Co.
27-15-27 Frantz Oil Corp.
Shut Down
10-15-29 Fifty-Six Pet. Co.
22-15-30 A. D. Miller et al.
11-15-30 Helen Cat Creek Oil Co.
8-15-29 Logan Corp.
15-15-30 Swartz et al.
11-15-30 Miles City Oil.
Rigs, 1; wells drilling, 22; total, 23.

KEVIN SUNBURST

Rigs
4-34- 2 Swears, Beardsley 1.
4-34- 2 Bitter Creek Oil Co.
20-34- 2 McBride, Canadian Amer. Oil Co.
21-35- 2 McManus, Hecla Sunburst 3.
25-36- 2 Keskin, Troy Inland Oil Co.
17-35- 1 Potlach Oil Co. 2.
30-35- 1 Stannard, Wallace Oil Co. 2.
11-35- 3 Stockman' Back, Ohio Oil Co
33-35- 2 Norum, Ohio Oil Co. 2.
20-35- 2 Whitman, Homestake Explor.
28-35- 2 Lorensen, California Co. 2.
4-35- 2 Reibe, Homestake Explor. 4.
30-35- 2 Broadwell, Hecla Oil Co.
Wells Drilling
3-34- 2 Frager, Tenbroek No. 2.
23-35- 2 Sohn, Royal Canadian.
4-34- 2 Moore, Queen City Oil 10.
33-36- 2 Roundsley, Ohio Oil Co. 2.
9-34- 2 Suhr, Sunburst Prod. Co.
31-35- 2 Tibbits, Whitefish Synd.
33-34- 2 NE, Frazer Oil Co. 2.
5-34- 2 Mary, Eagle Oil Co.
32-35- 1 Shuster, Adams Hibbings 2.
29-35- 1 Anderson, Sylvester Oil Co. 6.
27-35- 3 Houston, Moffat et al.
34-35- 3 Williams et al.
26-35- 3 Campbell, Royal Canadian.
31-35- 1 Chisholm Adams.
21-34- 1 Stockman's Bank, Potlatch Oil & Gas Co.
24-34- 2 Couer d'Alene-Hagerty.
8-34- 2 Pittsburg Montana Oil.
5-34- 2 Sweeney, Seattle Foster 2.
32- 6- 2 Roundsley, Sunburst Oil & Gas.
22-35- 2 Newman, California Co.
14-33- 1 Shelby Synd.
28-37- 2 McAlpin, Spartan Oil 1.
20-35- 2 Halter, Sunburst Prod. Co. 2.
7-34- 1 Harte, Russell Oil et al.
18-34- 1 Skinner, Creel et al.
32-35- 1 Putnam, Keystone Oil Co.
20-33- 1 Bailey, Flood Watson et al.
Shut Down
28-35- 1 Shelby Federal-Miller.
23-33- 1 Webb, Shelby Oil & Gas.
12-34- 1 Peterson, Lucky Forty Oil.
13-33- 2 Campbell, Campbell Synd. 5.
16-34- 2 NW, Rainbow Oil Co.
1-34- 2 NE, Sunburst Oil & Gas.
Rigs, 13; wells drilling, 33; total, 46.

MISCELLANEOUS

Rigs
Livingstone Dome, Whiteside et al.
Porcupine Dome, Stellar Oil & Gas.
24-14-15 Fullerton Oil & Gas.
12-10-32 Hibbard Oil Co.
4-28-30 Mid-Northern Oil.
Coal Ridge, West Virginia Oil Co.
Wells Drilling
25-14-25 Doodle Bug No. 2.
34-22- 1 Great Northern Mutual Oil.
33-19- 7 SW, Hager Stephenson Oil.
22- 2-25 SE, Lake Basin Oil Co.
28- 8-21 Klinefelter, Absoraka Oil Dev.
24-14-25 Elk Creek Oil Co.
13-18- 4 Coal Ridge, Montana Oil & Gas.
5- 1-31 NE, Allen Oil Co.
20- 1-25 Stebbins, Cal. Absoraka 1.
30-15-26 Wilson Fisher et al.
5- 3-16 Montana Portland Oil.
8- 4-23 NE, Hoosier Oil Co.
23- 1-12 Keeler, Springdale Synd.
33-16-28 H. H. Swarts, Jr.
9-31-19 California Co.
14-14-26 Flatwillw, A. M. Z. Synd.
28-16-27 Brush Synd.
32-25-20 Butler Oil & Gas.
24-20-12 Continental Prod.
17- 3-19 Snyder, Mid-Northern Oil.
4-27-20 California Co.
20-24- 1 C. A. McDonald et al.
Shut Down
27-36- 1 SW, Mountain Chief 2.
32- 4-16 SW, Consolidated Oil & Gas.
25- 1-21 Absoraka Oil Dev. Co.
5-35-21 NE, F. G. Ostland.
10-18- 2 NE, Moscow Idaho Oil.
9-12-14 Wilder, Glenhoma Oil Co. 2.
9-10-39 SE, Stellar Oil & Gas 5.
27- 3-24 SE, Murray Bros. 2.
6- 2-24 American Indian Oil.
36- 1-12 State, Springdale Oil Synd.
20-25- 5 Larsen, Edwards et al.
2-26- 6 Jones, W. M. Edwards.
18- 3-23 SW, Securities Prod. 4.
5- 2-24 NE, American Indian Oil.
24- 5- 8 SW, Potter Basin Oil & Gas.
35-32-32 SW, Bowdin Oil & Gas.
7-27- 7 NW, Circle Oil Co.
26-10-39 Stellar Oil & Gas.

13- 3-32 SE, Murray Bros.
32-30- 2 Denzer, Drake Oil Co.
21-14-28 Black Hawk Oil.
22- 2-25 McMennimen et al.
18- 6-24 Mennemyer & Newman.
3-12-25 Minnesota Flatwillow.
6-13-14 Fulton Oil Co.
26-14-20 NW, Jackson Oil Co.
30-15-26 Winnet Shallow Oil Synd.
7-27- 1 Tri-City Oil.
Devil's Basin, Alberta Block Coal Co.
25- 2-27 Gladys Belle Oil.
Devil's Basin, Montana Central Oil.
12-11-13 Kalispell Synd.
6- 5-25 Grey Eagle Oil.
32-26- 2 McCue-Doheny Oil Co.
18-22- 3 SW, Elk Horn O. & G.
3-17- 4 Eliakem Oil Co. 3.
18-32- 4 Beck Pet. Co.
25- 1-21 Neudigate Est. Inc.
Rigs, 6; wells drilling, 60; total, 66.

COLORADO

Rigs

9- 4-91 Knowlton, Texas Transcontinental.
17- 8-68 Brung, Carter Oil Co.
28-28-52 Associated Oil of Colo.
16-10-69 Widman, Prod. Ref.
13-15-61 Panuco Explor.
10- 3-44 Yuma Valley Oil Co.
1- 8-68 Morrel, Petroleum Prod. Corp.
17- 8-68 Fort Collins Chief Oil.
29-10-68 American Petroleum Co.
12-38-70 Green Mt. Petroleum.
31- 9-68 Midway Oil & Gas.
12- 2-70 Mullin Synd.
27- 2-20 Rainbow Oil Dev. Co.
7- 9-68 Union of California.

Wells Drilling

34-20-69 Fox Hills, Continental Oil Co.
27-20-69 Travis, Continental Oil Co.
10- 3-44 Armsnech, Hessick Drilling Co.
20- 2-46 Herman, General Pet. Co.
19- 8-68 Meyers, Union Oil of Calif.
30- 8-68 Blunck, Union Oil of Calif.
24- 8-69 Evans, Union Oil of Calif.
30- 8-68 Water Supply Co., Union Oil of Cal.
6- 9-68 Scott, Union Oil of Calif.
32-10-68 Hess, Union Oil of Calif.
31-10-68 Buckeye, Union Oil of Calif.
36-10-68 State, Union Oil of Calif.
31- 5-98 Morgan, Union Oil of Calif.
36- 9-68 State, Union Oil of Calif.
6- 7-68 Lindemeir, Victory Oil Co.
4- 6-68 Webster, Douglass Oil Co.
2- 8-68 Abbot, Douglass Oil Co.
15-21-65 Union of Colo.
10-24-69 Panuco Explor.
28- 3-64 Watkins, Miller Oil Co.
20- 1-93 Scott, Marland Oil Co.
30- 4-68 Thompson, Panuco Explor. Co.
18-20-46 Ne-No-She Oil Co.
18- 2-68 Texas Prod. Co. 2.
16- 4-92 State, T. S. Hogan et al.
13- 1-46 Yuma 2, Hessick Drilling Co.
23- 6-69 Rulkvetter, Wellington Oil Co.
33- 8-68 Chandler, Brendal & Ache.
34-17-70 Mutual Oil & Dev. Co.
34- 2-69 Johnson, Roland Oil Co.
3-32-12 Leidecker Pet. Corp.
18- 6-68 Texas Prod. Co. 2.
33- 6-91 Weyand, Texas Prod. Co.
8- 9-69 Warren, Union of Colorado.
30- 2-102 Midwest Ref. Co.
22- 4-92 French, Midwest Ref. Co.
22- 4-92 SE, Midwest Ref. Co. 2.
27- 4-92 NE, Midwest Ref. Co. 3.
32- 8-68 Graham, Fort Collins Pet. Co.
19- 9-68 Harvard, Great Northern Oil Inc.
17- 5-64 Hog Ranch, Roland Oil Co.
21- 4-92 Loyd, Midwest Ref. Co. 4.
32- 4-89 Texas-Midwest-Transcontinental.
3- 2-44 Wright, Wrayfield Oil Corp.
19- 5-69 Alps, Gateway Oil Co.
5- 6-68 Majestic Oil Co.
28- 2-70 Gehrung, Haystack Oil Co.
18- 9-68 Meredith, Quaker Oil Co.
19-16-48 Schultz, California Co.
11- 1-44 Hildrith, Hessick Drilling Co.
22- 1-69 Prince, Ohio Oil Co.
4-32-68 Tulsa Oil Leasing Co.
16- 3-91 Marland Oil Co.
8- 4-68 Carter-Texas.
9-12-62 Ulium, Roland Oil Co.
Pueblo district, Chico Basin Oil & Gas.
23-31-65 Colorado Oil Co.
34- 8-68 Ruff, Victory Oil Co.
23- 9-69 Waverly, Consolidated Oil Co.
25- 1-69 Eberhard, Boulder Oil Corp.
19-28-68 Panuco Explor.
1-19-69 Brush Hollow, Mutual Oil Co.
28-20-60 Travis, Mutual Oil Co.
36- 8-68 Webster, Associated Oil Co.

Shut Down

1-20-63 Baxter, Salida Oil & Ref. Co.
5-26-65 Moody Lake Oil Co.
31- 2-96 White River Dev. Co.
30-27-45 LeMar Oil Co.
23- 8-104 Peerless Oil Corp.
3-21-69 Fox Hills Pet. Co.
13-12-77 C. F. I. Ohio Oil Co.
32-10-68 Imperial Oil Co.
5- 1-43 Holland, Hessick Drilling Co.
13- 8-68 Hoff, Centennial & Sunset.
24- 9-69 Hanna, Wellington Oil Co.
16- 5-91 Texas Hogan interests.
24- 4-93 Axiel Basin, California Co.
3-35-58 Las Animas Synd.
8- 9-68 Ketterman, Colorado Oil Prod. Co.
28- 5-91 Freeman, Texas Prod. Co.
34- 5-91 Rennie, Texas Prod. Co.
33- 5-91 Hamilton, Texas Prod. Co.
14- 4-92 Ahern, Yarg Pet. Co.
36- 5-99 State, Prod. & Ref.
8- 8-68 Smith, Sun Oil Co.
Rigs, 14; wells drilling, 85; total, 99.

UTAH

Rigs

18-23-21 Metropole Oil Co.

Wells Drilling

10-22-21 Utah Oil & Ref.
23-44-95 Mt. States Pet. Co.
35-43-90 Utah Oil & Ref. Co. 2.
31-43-10 Utah Oil & Ref. Co. 3.
30-20-22 Utah Oil & Ref. Co. 2.
6-27-21 Shaffer, Midwest Ref. Co. 1.
Virgin Field, Gustaven Oil Co.
Roselle district, Lakeside Oil Co.
34-25-21 Big Six Oil.
16- 2- 5 State, Western Empire Oil.
23-42-17 Monroe Oil Co.
Crescent Dome, Crescent Eagle Oil.
Diamond Fork, Gustaven Oil Co.
31-32-18 Union Oil of Utah.
27-14-19 Glockner, Utah Southern Oil.
23- 5-22 Utah Oil & Ref.
4-18-28 New York State Oil Co.

Shut Down

22- 3-24 SW, Producers & Ref.
6-14-13 San Juan Oil & Dev. Co.
23-42-17 Monumental Oil.
12-19-13 Utah Oil & Ref. Co.
17- 4- 6 Ute Pet. & Utah Southern.
13-14- 9 Castle Dale Oil Co.
27-16- 4 Producers Oil Co.
Lakeside Dome, W. R. Holmes.
Diamond Fork, Franko Utah Oil.
25-13-13 Utah Central Oil Co.
Rigs, 1; wells drilling, 27; total, 28.

NEW MEXICO

Rigs

3-13-29 Bell, Marland Oil Co.
36-12-23 W. H. Graham.
19-16-34 Fenton Oil Co. 1.
Rattlesnake Dome, Continental Oil Co. 8.
5-30-13 H. L. Williams.

Wells Drilling

13-29-11 Montezuma Synd.
29- 8-28 Gilliland Oil & Ref.
33-18-18 New Mexico Co.
11-19-21 Arkansas Fuel Co.
30- 3- 9 NE, Arkansas Fuel Co.
29-17-27 Brainard Welch et al.
29-18-28 Illinois Prod. 10.
7-18-28 Simpson, Illinois Prod. Co.
10-18-28 Dunn, Illinois Prod. Co.
28-18-28 Walker Mitchell 3.
19-18-28 Keyes et al.
4-20-27 Olson, M. M. Miller.
35-18-28 Cheesman et al.
4-18-28 New State Oil Co. 2.
21-18-28 Snowden-McSweeney.
33-18-28 Atwood, Snowden-McSweeney.
34-19-28 Johnson, T. S. Hogan.
29-18-28 Rotary Oil Co. 2.
29-18-28 Seven Rivers Oil Co.
1-19-28 Merchant, Ohio Oil Co.
1-20-27 McCullough, Ohio Oil Co.
28-18-28 Twin Lakes Oil Co. 3.
30-18-29 Geodale, California Co.
2-19-26 Peckenbough, Eureka Oil Co
15-29-11 Bloomfield Oil & Gas 6.
8-20-28 Reiff, California Co.
22-19-27 Valley Oil Corp.
18-17-28 Thompson, Bobb et al.
Cochise County, Mountain Pet. Co.
16- 8-27 Danciger Bros. 1.
9-10-27 Danciger Bros. 2.
15-12-23 Zepenfield Co.
19-20-10 Lexi Oil Co.
31-32-13 Four States Oil Co.
20-29-11 Coal Creek Oil Co.
21-30-11 Home Gas Co.
29-18-28 Holman Ferson.
34-21-26 Tracy, Ohio Oil Co.
22-23-13 Roy T. Clapp.
23-23-11 Visti Oil Co.
15-23-24 California Co.
Beautiful Mountain, Navajo Oil Co.
10-20-28 Roberts, T. S. Hogan et al.

Shut Down

22-18-27 State, Oscar Howard.
16-32-14 Gypsy Oil Co.
12-29-13 Shiprock Oil Co.
25-39-12 Hall et al.
14-29-11 Hubbel & Hall.
20-32-13 H. L. Williams 3.
17-21-13 H. L. Williams 4.
8-30-13 H. L. Williams 3.
Rigs, 5; wells drilling, 51; total, 56.

WELLS COMPLETED

19-40-78	SW	Wyoming Oil Fields 31-A.		130
24-40-79	SE	Wyoming Oil Fields 24-A.		100
26-40-79	NE	Wyoming Asso. 18-A		165
15-40-79	NE	Wyoming Asso. 21-A		75
25-40-79	NW	Wyoming Asso. 15-A		30
23-40-79	SW	Wyoming Asso. 15-A		195
30-40-78	SW	Wyoming Asso. 16-A		96
26-40-79	SE	Wyoming Asso. 33-A		50
31-40-78	NE	Salt Creek Cons. 6-A		40
31-40-78	NE	Salt Creek Cons. 15-A		50
31-40-78	SW	Salt Creek Cons. 16-A		45
11-39-79	NW	Salt Creek Cons. 34-A		900
31-40-78	SE	Salt Creek Cons. 22-A		70
26-40-79	SW	Midwest Oil Co. 13-AX		30
26-40-79	NE	Midwest Oil Co. 1-A		25
14-40-79	NE	Midwest Oil Co. 17-A		440
1-39-79	NE	Midwest Oil Co. 3-A		75
13-40-79	SW	Midw't & Wyo. Asso. 4-A		20
13-40-79	SW	Midw't & Wyo. Asso. 3-A		19
1-39-79	NE	Midw't & Wyo. Asso. 4-A		50
36-40-79	SE	Midw't & Wyo. Asso. 34-A		100
19-40-78	SW	Midwest Oil Co. 19-A		100
24-40-79	SE	Wyoming Asso. 13-A		100
30-40-78	SW	Wyoming Asso. 13-A		66
30-40-78	NW	Wyoming Asso. 6-A		700
24-40-79	NE	Wyoming Asso. 36-A		110
19-40-78	SW	Wyoming Asso. 31-A		40
11-39-79	SW	E. T. Williams 2-A		50
14-40-79	NE	Midwest Oil Co. 15-A		5
35-40-79	NE	Midwest Oil Co. 3-A		11
26-40-79	SE	Wyoming Asso. 34-A		10
35-40-79	SE	Wyoming Asso. 16-A		844
24-40-79	SE	Wyoming Asso. 4-A		120
35-40-79	NE	Midwest Oil Co. 4-A		50
22-40-79	NE	Wyoming Oil Fields 4-A		3
6-39-78	NE	Mt. and Gulf 22-A		18
17-52-101	NE	Fifty Six Pet. Co.		dry
11-26-90	SW	Prairie Oil & Gas 54-A		13
11-26-90		Wyo. Ill., Prod. & Ref.		1500
10-26-90		Prairie Oil & Gas 62		20
29-14-76	SE	Jas. Cook et al		dry
34- 6- 3	NW	Kinney Coastal Oil Co.		dry

Wells completed 42
Production 6465
Dry 3

MONTANA

10-15-29		Harlan, Frantz Corp.	15
		Oldham lease, Mid-Northern Oil Co. 17.	10
		Clayton lease, Mid-Northern Oil Co. 18.	15
		Wildschultz lease, Mid-Northern Oil Co. 7-A	10
10-15-29		Homestake Oil Co. 18	50
21-36- 3		Archambault, Kevin Oil & Gas	10
29-35- 1		Anderson, Miles City Oil	50
36-35- 2		State, Monticello Oil Co.	10
29-35- 1		Anderson, Sylvester Oil Co. 5	25
4-34- 2		Corey, Johnson Synd. 4	40
4-34- 2		Queen City 9	500
33-35- 2		McCormick, Oneill Oil Co.	100
8-34- 2		DeGroat, Kaufman McCrutcheon	50
31-37- 1		Beaupre, Beaupre Oil Co.	dry
30-35- 2		Cobb Radigan	100
31-35- 1		Allen, Big West Oil Co. 6	50
24-35- 3		Freyberger, Western Drilling Co.	10
		Big Otter, Hager Stephenson Synd.	dry

Wells completed 18
Production 1045
Dry 2

COLORADO

28- 2-70		Gehrung, A. I. Deline	dry
28- 2-42		Yuma, Continental Oil Co.	dry
8-36- 4		Wilson, Montezuma Oil Co.	dry
25-24-61		Utah Southern Oil Co.	dry
32- 4-89		Milliken, Texas Transcontinental	dry

Wells completed 5
Dry 5

NEW MEXICO

23-29-11		Bloomfield Oil & Gas 5	20
2-29-19		Continental Oil 9	400
32-18-28		Illinois Prod. 6	40
29-18-28		Illinois Prod. 8	150
32-18-28		Illinois Prod. 9	100
18-18-28		Danciger Oil & Ref. Co.	200
12-18-27		Picher Oil Co.	20
		Hog Back Dome, Midwest Ref. Co. 12.	1000
28-18-28		Maljamar Oil Co.	200

Wells completed 9
Production 2130

RIO BRAVO VICE PRESIDENT

John R. Suman, president of the Houston Geological Society and member of the American Institute of Mining and Metallurgical Engineers, has been elected vice president of Rio Bravo Oil Co., subsidiary of Southern Pacific Co. He succeeds Edwin T. Dumble, dean of Texas geologists, who is retiring from active service.

MAMMOTH ANSWER FILED

CHEYENNE, Wyo., May 9.—The Mammoth Oil Co.'s brief in the Teapot Dome case was filed in the Federal Court here. The Government's brief was filed two weeks ago. The case is now ready for Judge T. B. Kennedy's decision.

SILICA GEL REPORT

Reporting to the stockholders of Davison Chemical Co., C. W. Miller, president, said: "The Silica Gel has made splendid progress during the year. We have put into operation four oil refining plants, two in this country and two abroad. A dehydration plant was completed at Niagara Falls last December and is running perfectly. The solvent recovery plant completed in England last summer has given entire satisfaction. We are now building a benzol recovery and refining plant in Germany and will shortly begin a benzol plant in England, and two dehydration plants for blast furnaces, one in Germany and the other in England. An absorption unit for the recovery of casinghead gas is being constructed for the Shell Co. in California, and a refrigeration unit has been completed in England and one building in Germany."

J. HAYS HAMMOND IN OIL

LOS ANGELES, Cal., May 9.—The Milham Exploration Co., of Delaware, headed by Ogden Mills and John Hays Hammond, makes its first entry into California oil field operations by leasing 4,000 acres of potential oil lands in the Ventura Avenue Field, Ventura County. Adjoining tracts have already been proven by the Associated Oil Co., and also several good sized tracts in Kern County. Test wells in the last named district have been started.

OKLAHOMA-KANSAS
Pipe Line Statement for March

Runs

Company—	Month	Daily Avg.
*Prairie Pipe Line Co.	3,472,000	112,000
Gulf Pipe Line Co.	1,126,625	36,343
Texas Pipe Line Co.	358,281	11,557
Magnolia Pet. Co.	924,913	29,836
Empire Pipe Line Co.	1,086,125	35,036
Cosden Pipe Line Co.	961,066	31,002
*Sinclair Pipe Line Co.	1,224,500	39,500
*Other Lines	7,905,000	255,000
Total March	17,058,510	550,274
Total February	16,093,956	574,784
Total difference	964,554	24,510

Shipments

	Month	Daily Avg.
†Prairie Pipe Line Co.	4,923,929	158,836
Gulf Pipe Line Co.	1,109,603	35,794
Texas Pipe Line Co.	756,778	24,412
Magnolia Pet. Co.	1,339,832	43,220
Empire Pipe Line Co.	1,083,253	34,944
Cosden Pipe Line Co.	826,049	26,647
†Sinclair Pipe Line Co.	1,986,757	64,089
*Other lines	7,843,000	255,000
Total March	19,901,201	642,942
Total February	19,305,164	689,470
Total difference	596,037	26,632

Stocks

*Prairie Oil & Gas Co.	25,000,000
*Prairie Pipe Line Co.	2,000,000
Gulf P. L. and Gypsy Oil Co.	10,024,180
Texas Pipe Line and Texas Co.	4,347,513
Magnolia Petroleum Co.	8,332,371
Empire Pipe Line Co.	3,077,736
Cosden Pipe Line Co.	2,727,656
*Sinclair Crude Oil Purchasing Co.	27,400,000
Carter Oil Co.	16,872,339
*Other lines	10,000,000
Total March	109,781,795
Total February	110,538,471
Total difference	756,676

*Estimated. †Prairie shipments include also Texas crude oil and Sinclair shipments also include Wyoming and Texas crude oil.

Note.—Stocks do not include approximately 8,800,000 bbls. held in storage on private tank farms and leases.

GROSS PRODUCTION IN THE UNITED STATES FOR 12 MONTHS

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountain	Eastern Fields	Total
April:	Month	19,299,849	13,452,240	11,577,246	2,268,540	4,068,225	1,495,582	3,738,332	3,273,600	59,173,614
	Daily average	643,328	448,408	385,908	75,618	135,608	49,853	124,611	109,120	1,939,131
May:	Month	19,833,576	14,247,697	11,623,395	2,459,765	4,659,117	1,596,701	3,866,010	3,264,000	61,550,261
	Daily average	639,793	459,603	374,948	79,347	150,288	51,507	124,710	105,042	1,985,493
June:	Month	18,807,999	14,447,390	11,602,350	2,469,380	4,756,443	1,812,580	3,638,634	3,253,600	60,788,376
	Daily average	626,933	481,580	386,745	82,313	158,548	60,429	121,288	108,453	2,026,279
July:	Month	19,274,755	15,191,860	11,917,137	2,671,053	4,597,969	1,815,966	3,768,398	3,371,600	62,608,739
	Daily average	621,766	490,060	384,424	86,195	148,322	58,580	121,561	108,761	2,019,637
August:	Month	19,112,998	16,525,356	11,808,876	2,717,398	4,359,241	1,702,525	3,749,375	3,286,000	63,261,769
	Daily average	616,548	533,076	380,931	87,658	140,621	54,920	120,948	106,000	2,040,702
September:	Month	18,308,233	16,299,030	11,089,492	2,638,900	4,029,535	1,795,575	3,330,007	3,150,000	60,640,772
	Daily average	610,274	543,301	369,650	87,963	134,318	59,853	111,000	101,936	2,021,359
October:	Month	18,696,559	16,189,898	10,942,005	2,768,455	3,983,696	1,774,707	3,058,268	3,395,000	60,808,588
	Daily average	603,115	522,255	353,000	89,305	128,506	57,249	98,654	109,516	1,961,567
November:	Month	17,767,034	15,955,620	10,731,264	2,597,460	3,461,050	1,965,921	2,788,110	2,941,000	58,207,459
	Daily average	592,234	531,854	357,709	86,582	115,035	65,531	92,937	98,033	1,940,248
December:	Month	18,795,126	16,031,185	11,264,915	2,537,443	3,380,511	1,870,876	2,302,888	3,000,850	59,183,794
	Daily average	606,294	517,135	363,384	81,853	109,049	60,351	74,287	96,402	1,909,155
January:	Month	18,743,288	15,462,800	13,790,195	2,520,858	3,278,484	1,774,972	2,627,676	3,065,993	61,263,366
	Daily average	604,622	498,800	444,845	81,318	105,758	57,228	84,760	98,903	1,976,238
February:	Month	16,869,833	13,905,780	11,361,896	2,466,660	2,886,296	1,547,416	2,666,335	2,905,000	54,609,216
	Daily average	602,494	496,635	405,782	88,095	103,082	55,265	95,226	103,750	1,950,325
March:	Month	18,626,009	14,403,716	13,047,068	2,824,534	3,564,473	1,807,517	2,734,235	3,282,000	60,289,552
	Daily average	600,839	464,636	420,886	91,114	114,983	58,307	88,201	105,871	1,944,837
	Total 12 months	224,135,259	182,112,572	140,756,239	30,940,446	47,025,040	20,959,448	38,268,268	38,188,643	722,386,915
	Daily average 12 months	614,069	498,939	385,634	84,767	128,836	57,423	104,845	104,626	1,979,189

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